FrameMaker Ver.5.5E(PC)  COVER [FIELD SERVICE] FOR Di350
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MINOLTA Co., Ltd.

1171-7991-11 99022300

Di350 SERVICE MANUAL [FIELD SERVICE]

# Di350

# SERVICE MANUAL

## [FIELD SERVICE]

# Safety Precautions for Inspection and Service

When performing inspection and service procedures, observe the following precautions to prevent accidents and ensure utmost safety.

✻ Depending on the model, some of the precautions given in the following do not apply.

Different markings are used to denote specific meanings as detailed below.

**WARNING** Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

**CAUTION** Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

The following graphic symbols are used to give instructions that need to be observed.


Used to call the service technician's attention to what is graphically represented inside the marking (including a warning).


Used to prohibit the service technician's from doing what is graphically represented inside the marking.


Used to instruct the service technician's to do what is graphically represented inside the marking.

## WARNING

1. Always observe precautions.


- Parts requiring special attention in this product will include a label containing the mark shown on the left plus precautionary notes. Be sure to observe the precautions.
- Be sure to observe the "Safety Information" given in the Operator's Manual.

2. Before starting the procedures, be sure to unplug the power cord.


- This product contains a high-voltage unit and a circuit with a large current capacity that may cause an electric shock or burn.
- The product also contains parts that can jerk suddenly and cause injury.
- If this product uses a laser, laser beam leakage may cause eye damage or blindness.

3. Use the specified parts.


- For replacement parts, always use the genuine parts specified in the manufacturer's parts manual. Installing a wrong or unauthorized part could cause dielectric breakdown, overload, or undermine safety devices resulting in possible electric shock or fire.
- Replace a blown electrical fuse or thermal fuse with its corresponding genuine part specified in the manufacturer's parts manual. Installing a fuse of a different make or rating could lead to a possible fire. If a thermal fuse blows frequently, the temperature control system may have a problem and action must be taken to eliminate the cause of the problem.

4. Handle the power cord with care and never use a multiple outlet.

- Do not break, crush or otherwise damage the power cord. Placing a heavy object on the power cord, or pulling or bending it may damage it, resulting in a possible fire or electric shock.
- Do not use a multiple outlet to which any other appliance or machine is connected.
- Be sure the power outlet meets or exceeds the specified capacity.

5. Be careful with the high-voltage parts.

- A part marked with the symbol shown on the left carries a high voltage. Touching it could result in an electric shock or burn. Be sure to unplug the power cord before servicing this part or the parts near it.

6. Do not work with wet hands.

- Do not unplug or plug in the power cord, or perform any kind of service or inspection with wet hands. Doing so could result in an electric shock.

7. Do not touch a high-temperature part.

- A part marked with the symbol shown on the left and other parts such as the exposure lamp and fusing roller can be very hot while the machine is energized. Touching them may result in a burn.
- Wait until these parts have cooled down before replacing them or any surrounding parts.

8. Maintain a grounded connection at all times. (This item may not apply in the USA.)

- Be sure to connect the ground wire to the ground terminal even when performing an inspection or repair. Without proper grounding, electrical leakage could result in an electric shock or fire.
- Never connect the ground wire to a gas pipe, water pipe, telephone ground wire, or a lightning conductor.

9. Do not remodel the product.

- Modifying this product in a manner not authorized by the manufacturer may result in a fire or electric shock. If this product uses a laser, laser beam leakage may cause eye damage or blindness.

10. Restore all parts and harnesses to their original positions.

- To promote safety and prevent product damage, make sure the harnesses are returned to their original positions and properly secured in their clamps and saddles in order to avoid hot parts, high-voltage parts, sharp edges, or being crushed.
- To promote safety, make sure that all tubing and other insulating materials are returned to their original positions. Make sure that floating components mounted on the circuit boards are at their correct distance and position off the boards.

## CAUTION

1. Precautions for Service Jobs

- A toothed washer and spring washer, if used originally, must be reinstalled. Omitting them may result in contact failure which could cause an electric shock or fire.
- When reassembling parts, make sure that the correct screws (size, type) are used in the correct places. Using the wrong screw could lead to stripped threads, poorly secured parts, poor insulating or grounding, and result in a malfunction, electric shock or injury.
- Take great care to avoid personal injury from possible burrs and sharp edges on the parts, frames and chassis of the product.
- When moving the product or removing an option, use care not to injure your back or allow your hands to be caught in mechanisms.

2. Precautions for Servicing with Covers and Parts Removed

- Wherever feasible, keep all parts and covers mounted when energizing the product.
- If energizing the product with a cover removed is absolutely unavoidable, do not touch any exposed live parts and use care not to allow your clothing to be caught in the moving parts. Never leave a product in this condition unattended.
- Never place disassembled parts or a container of liquid on the product. Parts falling into, or the liquid spilling inside, the mechanism could result in an electric shock or fire.
- Never use a flammable spray near the product. This could result in a fire.
- Make sure the power cord is unplugged before removing or installing circuit boards or plugging in or unplugging connectors.
- Always use the interlock switch actuating jig to actuate an interlock switch when a cover is opened or removed. The use of folded paper or some other object may damage the interlock switch mechanism, possibly resulting in an electric shock, injury or blindness.

3. Precautions for the Working Environment

- The product must be placed on a flat, level surface that is stable and secure.
- Never place this product or its parts on an unsteady or tilting workbench when servicing.
- Provide good ventilation at regular intervals if a service job must be done in a confined space for a long period of time.
- Avoid dusty locations and places exposed to oil or steam.
- Avoid working positions that may block the ventilation ports of the product.

4. Precautions for Handling Batteries

- Replace a rundown battery with the same type as specified in the manufacturer's parts manual.
- Before installing a new battery, make sure of the correct polarity of the installation or the battery could burst.
- Dispose of used batteries according to the local regulations. Never dispose of them at the user's premises or attempt to try to discharge one.

5. Precautions for the Laser Beam (Only for Products Employing a Laser)

- Removing the cover marked with the following caution label could lead to possible exposure to the laser beam, resulting in eye damage or blindness. Be sure to unplug the power cord before removing this cover.
- If removing this cover while the power is ON is unavoidable, be sure to wear protective laser goggles that meet specifications.
- Make sure that no one enters the room when the machine is in this condition.
- When handling the laser unit, observe the “Precautions for Handling Laser Equipment.”


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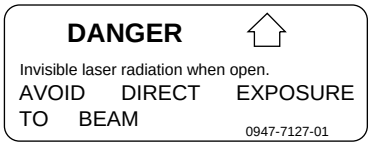


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## Other Precautions

- To reassemble the product, reverse the order of disassembly unless otherwise specified.
- While the product is energized, do not unplug or plug connectors into the circuit boards or harnesses.
- The magnet roller generates a strong magnetic field. Do not bring it near a watch, floppy disk, magnetic card, or CRT tube.
- An air gun and vacuum cleaner generates a strong electrostatic charge that can destroy the ATDC sensor and other sensors. Before cleaning a component with one of these devices, be sure to remove all the sensors. Otherwise, use a blower brush and cloth when cleaning parts.
- When handling circuit boards with MOS ICs, observe the “INSTRUCTIONS FOR HANDLING THE PWBs WITH MOS ICs” (applicable only to the products using MOS ICs).
- The PC Drum is a very delicate component. Observe the precautions given in “HANDLING OF THE PC DRUM” because mishandling may result in serious image problems.
- Note that replacement of a circuit board may call for readjustments or resetting of particular items, or software installation.
- After completing a service job, perform a safety check. Make sure that all parts, wiring and screws are returned to their original positions.
- Check the area surrounding the service site for any signs of damage, wear or need of repair.
- Do not pull out the toner hopper while the toner bottle is turning. This could result in a damaged hopper motor or locking mechanism.
- If the product is to be run with the front door open, make sure that the toner hopper is in the locked position.

## Used Batteries Precautions

ALL Areas

CAUTION

Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type recommended by the manufacturer.
Dispose of used batteries according to the manufacturer's instructions.

Germany

VORSICHT!

Explosionsgefahr bei unsachgemäßem Austausch der Batterie.
Ersatz nur durch denselben oder einen vom Hersteller empfohlenen ähnlichen Typ.
Entsorgung gebrauchter Batterien nach Angaben des Herstellers.

France

ATTENTION

Ily a danger d'explosion s'ily a remplacement incorrec de la batterie.
Remplacer uniquement avec une batterie du meme type ou d'un type équivalent recommande par le constructueur.
Mettre au rebut les batteries usageés conformément aux instructions du fabricant.

Denmark

ADVARSEL!

Lithiumbatteri - Eksplosionsfare ved fejlagtig håndtering Udskiftning må kun ske med batteri af samme fabrikat og type.
Levér det brugte batteri tilbage til leverandøren.

Norway

ADVARSEL

Eksplosjonsfare ved feilaktig skifte av batteri.
Benytt samme batteritype eller en tilsvarende type anbefalt av apparatfabrikanten.
Brukte batterier kasseres i henhold til fabrikantens instruksjoner.

Sweden

VARNING

Explosionsfara vid felaktigt batteribyte.
Använd samma batterityp eller en ekvivalent typ som rekommenderas av apparattillverkaren.
Kassera använt batteri enligt fabrikantens instruktion.

Finland

VAROITUS

Paristo voi räjähtää, los se on virheellisesti asennettu.
Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin. Hävitä Käytetty paristo valmistajan ohjeiden mukaisesti.

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## SWITCHES ON PWBs, TECH. REP. SETTINGS

## TROUBLESHOOTING

# Di350

# DIS/REASSEMBLY, ADJUSTMENT

MINOLTA

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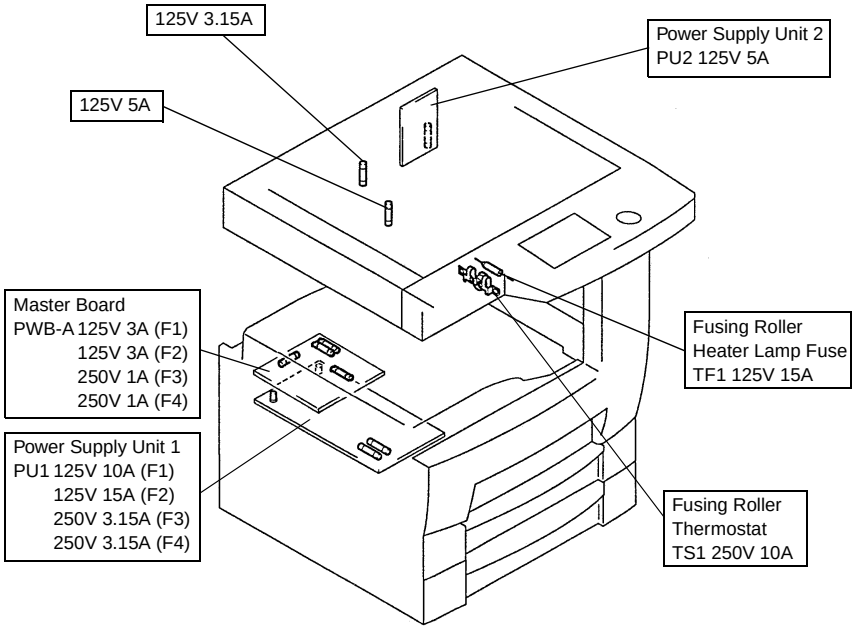
# 1 SERVICE INSTRUCTIONS

## 1-1. IDENTIFICATION OF FUSES AND CIRCUIT BREAKERS




## 1-2. PRECAUTIONS FOR HANDLING THE LASER EQUIPMENT

- The laser used in this copier is a semiconductor laser having the following specifications.

| | |
|---|---|
| Max. power: | 5mW |
| Output wavelength: | 770~810nm |

- When laser protective goggles are to be used, select ones with a lens conforming to the above specifications.
- When a disassembly job needs to be performed in the laser beam path, such as when working around the printerhead and PC Drum, be sure first to turn the copier OFF.
- If the job requires that the copier be left ON, take off your watch and ring and wear laser protective goggles.
- A highly reflective tool can be dangerous if it is brought into the laser beam path. Use utmost care when handling tools on the user's premises.
- The printerhead is not maintainable in the field. It is to be replaced as an assembly including the control board. Never, therefore, attempt to remove the laser diode or adjust trimmers on the control board.

## 1-3. INSTRUCTIONS FOR HANDLING THE PWBs WITH MOS ICs

**The following precautions must be observed when handling P.W. Boards with MOS (Metal Oxide Semiconductor) ICs.**

**During Transportation/Storage:**
- During transportation or when in storage, new P.W. Boards must not be indiscriminately removed from their protective conductive bags.
- Do not store or place P.W. Boards in a location exposed to direct sunlight.
- When it becomes absolutely necessary to remove a Board from its conductive bag or case, always place it on its conductive mat in an area as free as possible from static electricity.
- Do not touch the pins of the ICs with your bare hands.

**During Replacement:**
- Before unplugging connectors from the P.W. Boards, make sure that the power cord has been unplugged from the outlet.
- When removing a Board from its conductive bag or conductive case, do not touch the pins of the ICs or the printed pattern. Place it in position by holding only the edges of the Board.
- Before plugging connectors into the Board, make sure that the power cord has been unplugged from the power outlet.

**During Inspection:**
- Avoid checking the IC directly with a multimeter; use connectors on the Board.
- Never create a closed circuit across IC pins with a metal tool.
- When it is absolutely necessary to touch the ICs and other electrical components on the PW Board, be sure to ground your body.

## 1-4. HANDLING OF THE IMAGING CARTRIDGE

**During Transportation/Storage:**
- Use the specified carton whenever moving or storing the Imaging Cartridge.
- The storage temperature is in the range between –20°C and +40°C.
- In summer, avoid leaving the Imaging Cartridge in a car for a long time.

**Handling:**
- Ensure that the correct Imaging Cartridge is used.
- Store the Imaging Cartridge in a site that is not exposed to direct sunlight.

**Precautionary Information on the PC Drum Inside the Imaging Cartridge:**
- The PC Drum exhibits greatest light fatigue after being exposed to strong light over an extended period of time. Never, therefore, expose it to direct sunlight.
- Use care not to contaminate the surface of the PC Drum with oil-base solvent, fingerprints, and other foreign matter.
- Do not scratch the surface of the PC Drum.
- Do not apply chemicals to the surface of the PC Drum.
- Do not attempt to wipe clean the surface of the PC Drum.

## 1-5. PARTS WHICH MUST NOT BE TOUCHED

### (1) Red painted Screws

**Purpose of Application of Red Paint**
Red painted screws show that the assembly or unit secured can only be adjusted or set at the factory and should not be readjusted, set, or removed in the field.

Note that when two or more screws are used on the part in questions, only one representative screw may be marked with red paint.

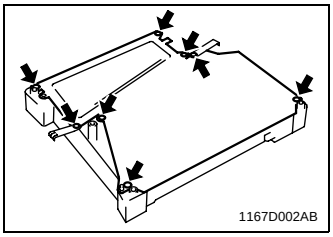
### (2) Variable Resistors on Board

Do not turn the variable resistors on boards for which no adjusting instructions are given in "ADJUSTMENT."

### (3) Other Screws

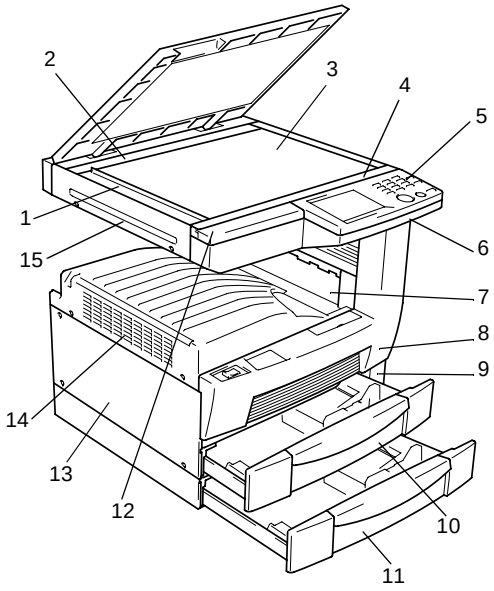
Although not marked with red paint, the following screws must not be loosened or readjusted.

8 screws on the PH Unit Cover



# 2 DISASSEMBLY/REASSEMBLY

## 2-1. DOORS, COVERS, AND EXTERIOR PARTS: IDENTIFICATION AND REMOVAL PROCEDURES

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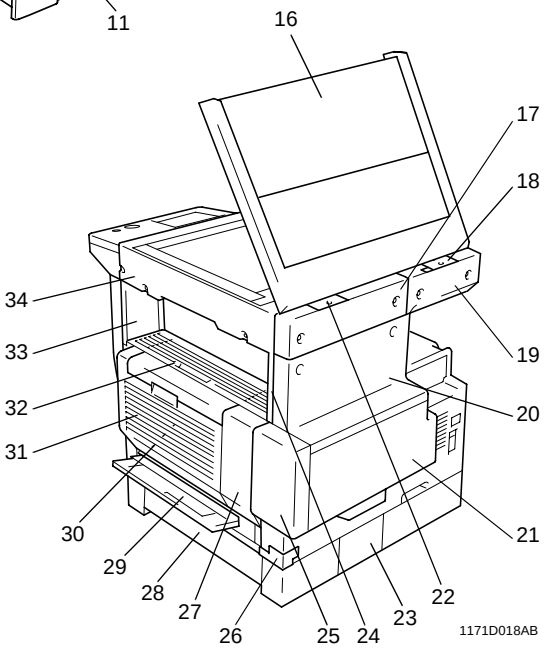


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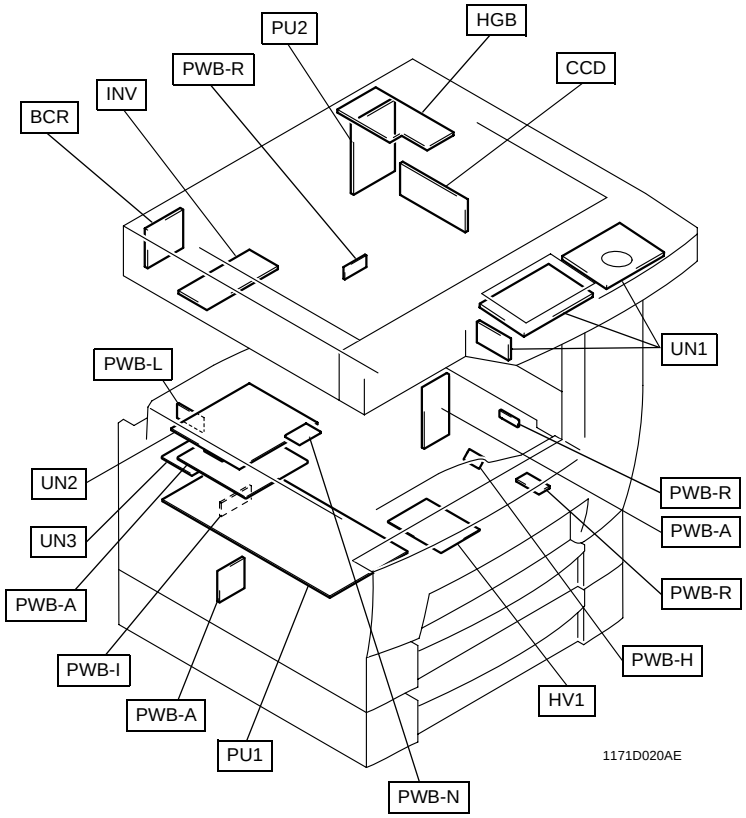
| No. | Part Name | Removal Procedure |
|---|---|---|
| 1 | ADF Glass Assy. | Remove No. 2, 4. → Remove two holding brackets. → Remove two screw caps. → Remove two screws that secure the ADF Glass Assy. |
| 2 | Rear Holding Bracket | Remove No. 17, 18. → Remove two screw caps. → Remove two screws that secure the Rear Holding Bracket. |
| 3 | Original Glass | Remove No. 4. → Remove two holding brackets. |
| 4 | Front Holding Bracket | Remove two screw caps. → Remove two screws that secure the Front Holding Bracket. |
| 5 | Control Panel | Remove No. 8. → Remove No. 6. → Remove No. 4. → Remove No. 12. → Remove five screws that secure the control panel and unplug one connector. |
| 6 | Front Upper Cover | Remove No. 8. → Remove No. 12. → Remove six screws that secure the Front Upper Cover. |
| 7 | Exit Lower Cover | Remove No. 32. → Remove No. 24. → Unhook the two tabs of the Exit Lower Cover and remove the Exit Lower Cover. |
| 8 | Front Cover | Slide out No. 10. → Open No. 25. → Remove three screws that secure the Front Cover. |
| 9 | LED Cover | Slide out No. 10. → Remove one screw that secure the LED Cover. |
| 10 | MP Cassette | Slide out the MP Cassette. → Pushing the tab on the right rail, pull out the cassette. |
| 11 | 500-Sheet Cassette | Slide out the 500-Sheet Cassette. → Pushing the tabs on both the right and left rails, pull out the cassette. |
| 12 | Upper Front Left Cover | Remove No. 4. → Remove two screws that secure the Upper Front Left Cover. |
| 13 | Left Cover | Remove six screws that secure the Left Cover. |
| 14 | Upper Cover | Remove two screws that secure the Upper Cover. |
| 15 | Left IR Cover | Remove two screws that secure the Left IR Cover. |
| 16 | Original Cover | ——— |
| 17 | Rear Right IR Cover | Remove No. 22. → Remove No. 19. → Remove two screws that secure the Rear Right IR Cover. |
| 18 | Left Hinge Cover | Remove one screw that secure the Left Hinge Cover. |
| 19 | Rear Left IR Cover | Remove No. 17. → Remove two screws that secure the Rear Left IR Cover. |
| 20 | Rear Upper Cover | Remove No. 21. → Remove No. 17. → Remove No. 19. → Remove four screws that secure Rear Upper Cover. |
| 21 | Rear Lower Cover | Remove No. 26. → Remove No. 25. → Open No. 30. → Open No. 32. → Remove five screws that secure the Rear Lower Cover. |
| 22 | Right Hinge Cover | Remove one screw that secure the Right Hinge Cover. |
| 23 | Connector Cover | Remove one screw that secure the Connector Cover. |
| 24 | Rear Inside Cover | Remove No. 22. → Remove three screws that secure the Rear Inside Cover. |

| No. | Part Name | Removal Procedure |
|---|---|---|
| 25 | Toner Bottle Cover | Open the Toner Bottle Cover. → Unhook the dowels at four places of the Toner Bottle Cover. |
| 26 | Harness Cover | Remove one screw that secure the Harness Cover. |
| 27 | Duplex Unit Rear Cover | Remove No. 31. → Remove two screws that secure the Duplex Unit Rear Cover. |
| 28 | 500-Sheet Cassette Side Cover | Open the Side Cover. → Slide the Side Cover to the front and, at the same time, pull the rear side out of the frame. |
| 29 | Manual Bypass Tray | Remove No. 26. → Unplug one connector. → Remove three screws that secure the Manual Bypass Tray. |
| 30 | Side Cover | ——— |
| 31 | Duplex Unit | Remove two screws that secure the Duplex Unit. |
| 32 | Fusing Unit | See D-26. |
| 33 | Front Inside Cover | Remove No. 8. → Remove No. 32. → Remove two screws that secure the Front Inside Cover. |
| 34 | Right IR Cover | Remove three screws that secure the Right IR Cover. |

## 2-2. REMOVAL OF CIRCUIT BOARDS AND OTHER ELECTRICAL COMPOMENTS

- When removing a circuit board or other electrical component, refer to “PRECAUTIONS FOR HANDLING THE PWBs” contained in SWITCHES ON PWBs and follow the corresponding removal procedures.
- The removal procedures given in the following omit the removal of connectors and screws securing the circuit board support or circuit board.
- Where it is absolutely necessary to touch the ICs and other electrical components on the board, be sure to ground your body.

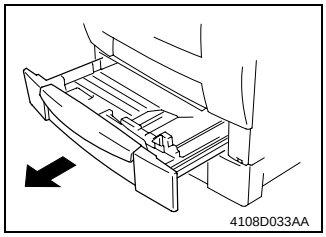


| Symbol | Part Name | Removal Procedure |
|---|---|---|
| PWB-A | Master Board | Remove the Upper Cover. → Remove nine screws and the MFB Box Cover. → Remove two screws and the MFB Box Assy. → PWB-A |
| PWB-A | Cassette Main Board | Remove the Connector Cover. → PWB-A |
| PWB-A | Duplex Main Board | Remove the Duplex Unit. → Remove the Duplex Unit Rear Cover. → PWB-A |
| PWB-H | Double Feed Detecting Board | Slide out the MP Cassette. → Remove one screw and the PWB-H Mounting Bracket Assy. → PWB-H |
| PWB-I | Paper Size Detecting Board | Remove the Harness Cover. → Remove the Rear Cover. → Remove two screws and the PW Board Cover. → PWB-I |
| PWB-L | PPM Switching Board | Remove the Harness Cover. → Remove the Rear Cover. → Remove one screw and the PWB-L Mounting Bracket Assy. → PWB-L |
| PWB-N | RAM Board | Remove the Upper Cover. → Remove nine screws and the MFB Box Cover. → PWB-N |
| PWB-R | Fuser Frame Register Board | Remove the Fusing Unit. → Remove the rear lamp cover. → PWB-R |
| PWB-R | Pre-Transfer Guide Plate Register Board 1 | Remove the Vertical Transport Unit. → Remove two screws and two ground plates. → PWB-R |
| PWB-R | Pre-Transfer Guide Plate Register Board 2 | Open the Side Cover. → Remove the Imaging Cartridge. → Remove one screw and the PW Board Cover. → PWB-R |
| PU1 | Power Supply Board 1 | Remove the Harness Cover. → Remove the Rear Cover. → Remove the Left Cover. → Remove five screws and the Reinforcement Bracket. → Remove three screws and the PU1 Mounting Bracket Assy. → PU1 |
| PU2 | Power Supply Board 2 | Remove the Harness Cover. → Remove the Rear Cover. → PU2 |
| HV1 | High Voltage Unit | Open the Side Cover. → Remove the Imaging Cartridge. → Remove two screws and the HV1 Cover. → HV1 |
| INV | Inverter Board | Remove the Original Glass. → INV |
| BCR | BCR Board | Remove the Rear Left IR Cover. → Remove three screws and the Harness Cover. → BCR |
| HGB | HGB Board | Remove the Original Glass. → Remove the Right IR Cover. → Remove the Optical Cover. → Remove the Rear Lower Cover. → Remove the Rear Upper Cover. → Remove the Shielding Plate. (U.S.A. and Canada only) → Remove one screw and the Harness Cover. → Unplug nine connectors. → Remove five screws and the HGB Mounting Bracket Assy. → HGB |
| CCD | CCD Board | See D-15. |

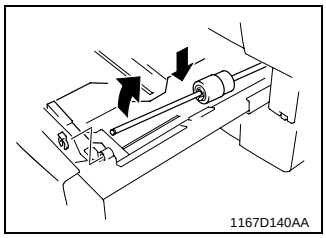
| Symbol | Part Name | Removal Procedure |
|---|---|---|
| UN2 | MFB Board | Remove the Upper Cover. → Remove nine screws and the MFB Box Cover. → UN2 |
| UN3 | Polygon Motor Drive Board | Remove the PH Unit. → UN3 |

## 2-3. PAPER TAKE-UP/TRANSPORT SECTION

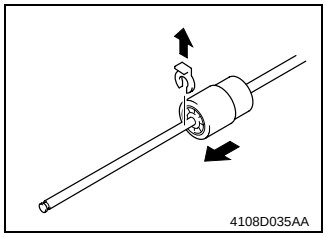
### (1) Replacement of the Paper Take-Up Roll




1. Slide out the MP Cassette.

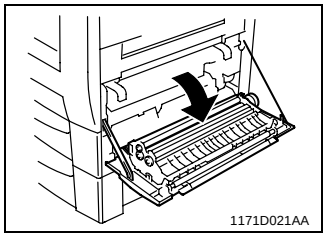



2. Lock the Paper Lifting Plate.
3. Snap off one C-clip of the Paper Take-Up Roll Assy.
4. Slide the Paper Take-Up Roll Assy to the rear so that it can be pulled off the bushing at the front.

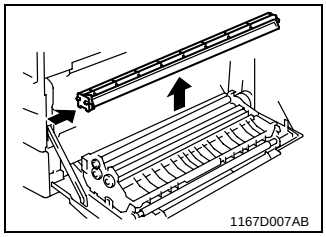



5. Snap off one C-clip and remove and replace the Paper Take-Up Roll.

### (2) Replacement of the Paper Dust Remover

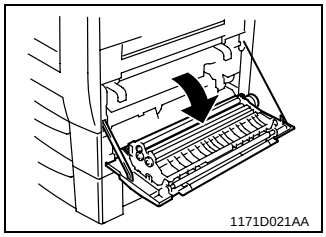



1. Open the Side Cover.

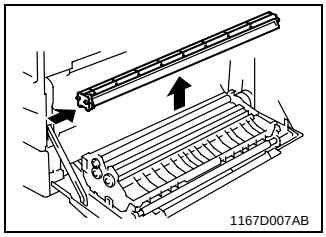



2. Remove the Paper Dust Remover and replace it.

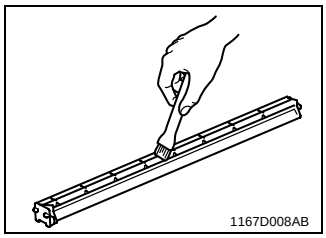
**(3) Cleaning of the Paper Dust Remover**




1. Open the Side Cover.

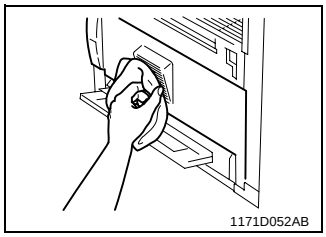



2. Remove the Paper Dust Remover.



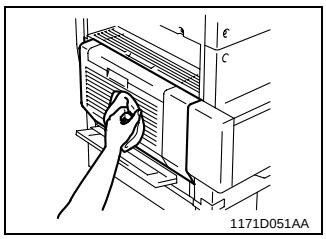

3. Using a brush, whisk dust and dirt off the Paper Dust Remover.

**(4) Cleaning of the Side Cover**




Using a soft cloth dampened with alcohol, wipe the Side Cover.

**(5) Cleaning of the Duplex Unit Cover**

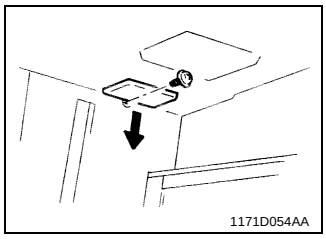



Using a soft cloth dampened with alcohol, wipe the Duplex Unit Cover.

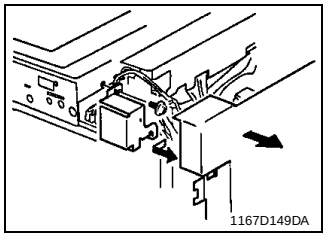
## 2-4. OPTICAL SECTION

### (1) Removal of the IR Unit

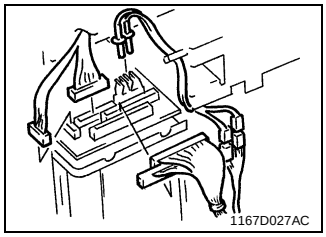
1. Remove the Original Cover, Front Holding Bracket, Upper Front Left Cover, Front Cover, Front Upper Cover, Rear Right IR Cover, Rear Left IR Cover, Rear Lower Cover, Rear Upper Cover, and Front Inside Cover.



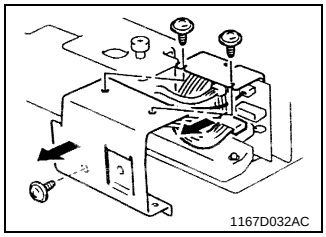

2. Remove one screw and the Motor Cover.



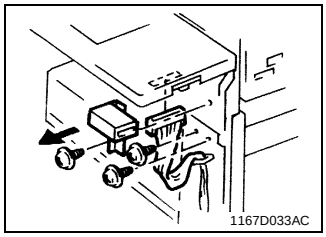

3. Remove the Shielding Plate. (U.S.A. and Canada only)
4. Remove one screw and the Harness Cover.



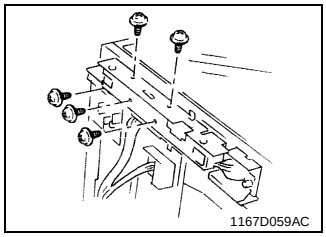

5. Unplug eight connectors of the HGB Board.



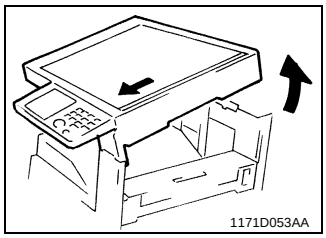

6. Remove three screws and the Harness Cover.
7. Unplug one connector of the BCR Board.




8. Remove one screw and the Total Counter Mounting Bracket Assy.
9. Unplug one connector of the Control Panel.
10. Remove two screws that secure the front end of the frame.




11. Remove five screws that secure the rear end of the frame.

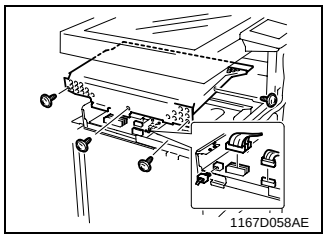



12. Raise the rear end of the IR Unit and pull the unit out toward front.

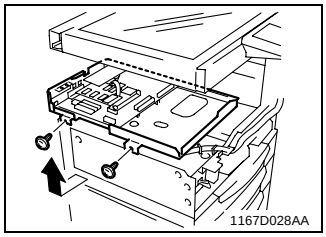
**(2) Removal of the PH Unit**

***NOTES***

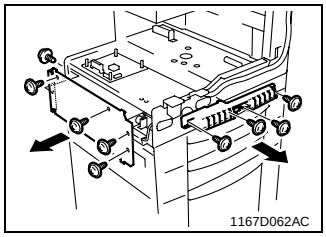
- *Do not place the PH Unit upside down or subject it to excessive shock.*
- *Replace the PH Unit as one unit.*
- *NEVER attempt to disassemble or adjust the PH Unit.*
- *Whenever the PH Unit has been removed, make the following adjustments: Edge Erase, Registration (CD, FD) (Printer), Registration (IR).*



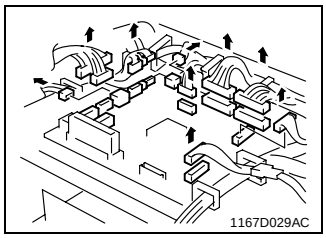

1. Remove the Upper Cover, Front Cover, Left Cover, and Rear Cover.
2. Remove four screws and the MFB Box Cover.
3. Unplug five connectors of the MFB Board.



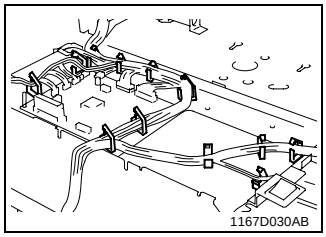

4. Remove two screws and the MFB Box Assy.



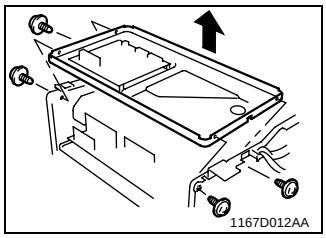

5. Remove five screws and the Reinforcement Bracket.
6. Remove four screws and the handle.




7. Unplug all connectors (13) from Master Board PWB-A.

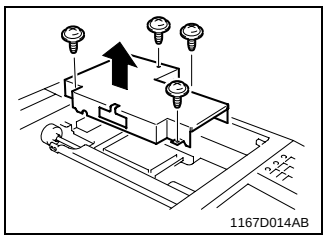



8. Remove the harness from all cord clamps (12) on the PH Base Plate.



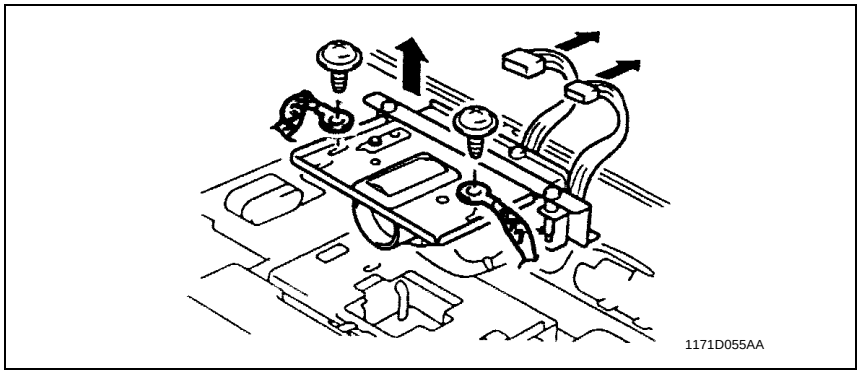

9. Remove four screws and the PH Unit.

**(3) Removal of the CCD Unit**




1. Remove the Original Glass.
2. Remove four screws and the Cover.

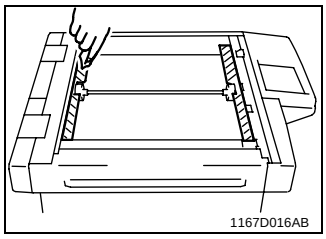
3. Unplug two connectors of the CCD Unit.
4. Remove two screws and the CCD Unit.




***NOTES***

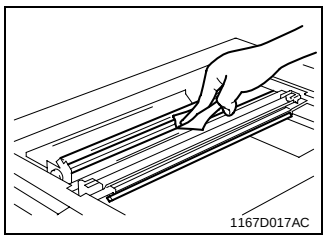
1. When removing the CCD Unit, remove only those screws and parts that are specified. (Remove the CCD Unit as one unit.)
2. Whenever the CCD Unit has been replaced, make the following adjustment: FD of Zoom Adjust (IR).

**(4) Cleaning of the Scanner Rails/Bushings**



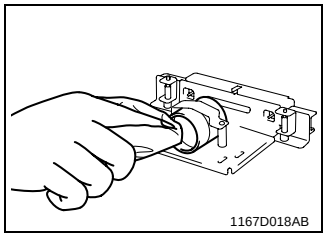

1. Remove the Original Glass.
2. Using a soft cloth, wipe clean the Scanner Rails and Bushings.

**(5) Cleaning of the Mirrors**



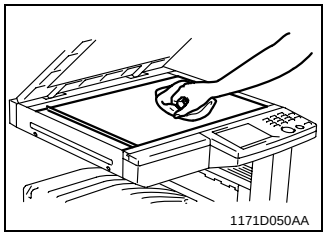

1. Remove the Original Glass.
2. Wipe clean the Mirrors with a soft cloth.

**(6) Cleaning of the Lens**




1. Remove the CCD Unit.
2. Wipe clean the Lens with a soft cloth.

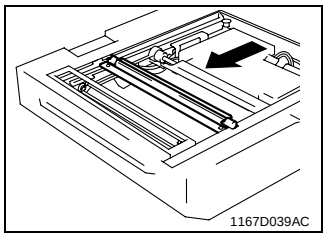
**(7) Cleaning of the Original Glass**



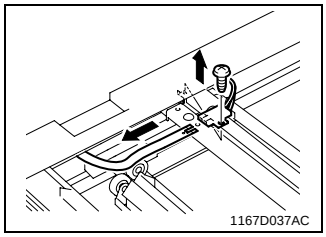

Wipe clean the Original Glass with a soft cloth.

**(8) Removal of the Scanner**

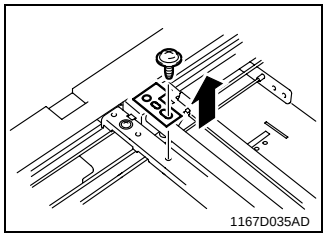
1. Remove the Original Glass.
2. Remove the Rear Holding Bracket.



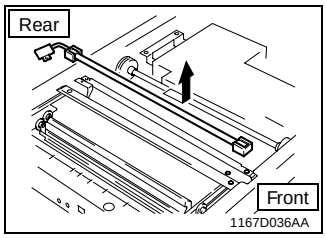

3. Slide the Scanner to the position shown.



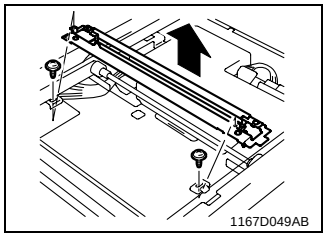

4. Remove one screw and unplug the connector of the Exposure Lamp.
5. Remove the flat cable of the Exposure Lamp.




6. Remove one screw and the Lamp Fixing Bracket.



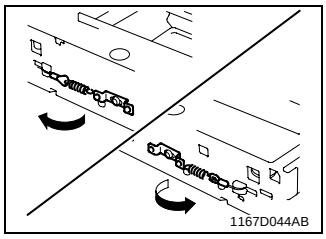

7. Slide the Exposure Lamp to the front and remove it.



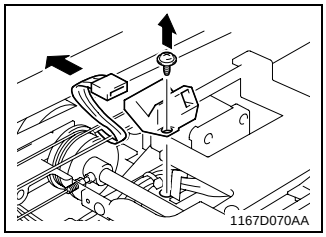

8. Remove two screws and the Scanner.

**(9) Removal of the Scanner Drive Cables**

1. Remove the Original Glass and ADF Glass Assy.
2. Remove the Left IR Cover.
3. Remove the Scanner.

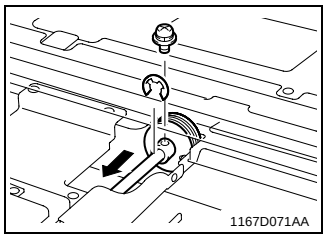



4. Unhook the spring of the cable on the hook side, one each at the front and in the rear.

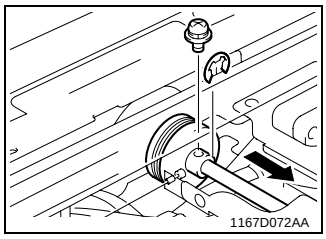



5. Remove one screw and the Original Size Detection Sensor.

✻ Inch Areas Option.



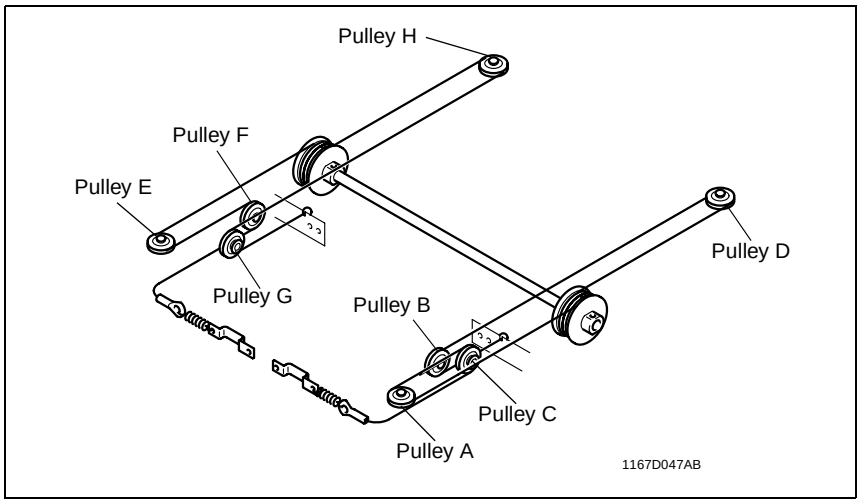

6. Snap off one E-ring and remove one mounting screw from the front pulley and slide the pulley to the rear.

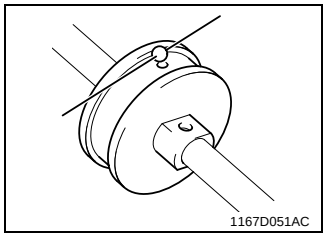



7. Snap off one E-ring and remove one mounting screw from the rear pulley and slide the pulley to the front.

8. Remove the Scanner Drive Cable, hook end first.

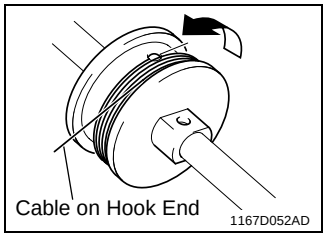
**(10) Winding of the Scanner Drive Cables**



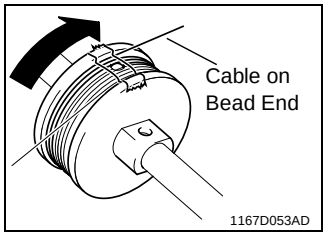




Front

1. Position the round bead of the Scanner Drive Cable in the pulley as shown.

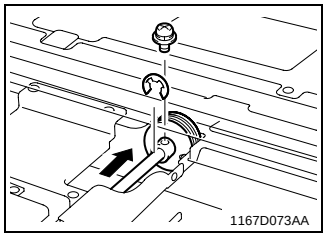



2. Wind the hook end of the Scanner Drive Cable two turns counterclockwise from the rear side to the front.

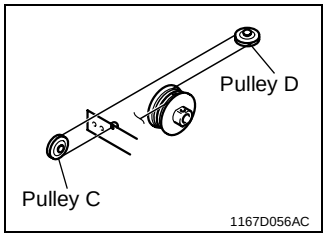



3. Wind the bead end of the cable four turns clockwise from the front to the rear. Then, secure the cable with tape.

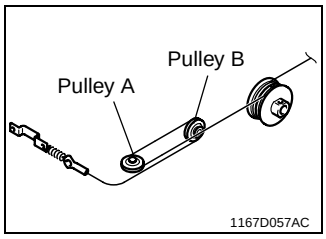
***NOTE***
*Make sure that no part of the cable rides on the other.*



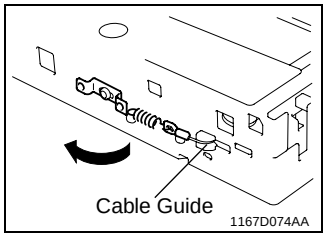

4. Slide the pulley to the front and install one mounting screw and one E-ring.



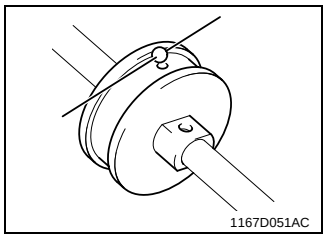

5. Wind the bead end of the cable around pulley D and pulley C, then hook the bead onto the Adjustable Anchor.




6. Wind the hook end of the cable around pulley A and pulley B.

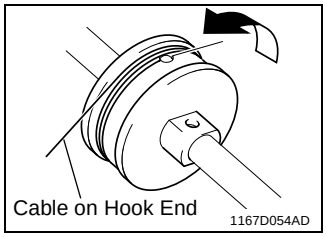



7. Fit the hook end of the cable into the groove in the Cable Guide and hook the spring.

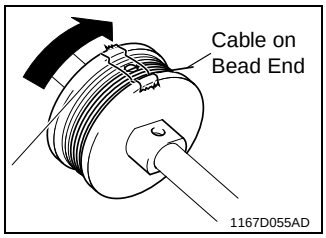



Rear

8. Position the round bead of the Scanner Drive Cable in the pulley as shown.

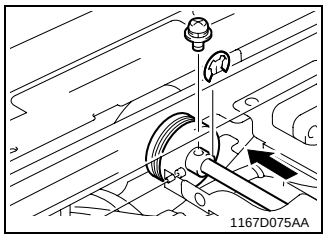



9. Wind the hook end of the cable two turns counter-clockwise from the front to the rear.

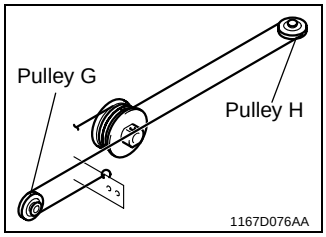



10. Wind the bead end of the cable four turns clockwise from the rear to the front. Then, secure the cable with tape.

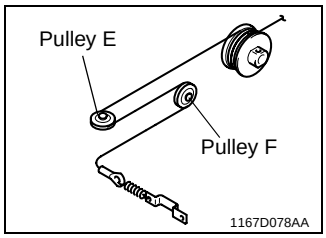
***NOTE***
*Make sure that no part of the cable rides on the other.*



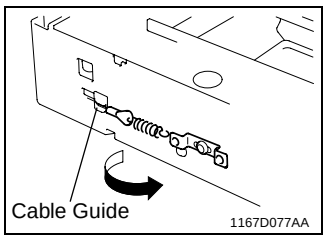

11. Slide the pulley toward the rear and install one mounting screw and one E-ring.




12. Wind the bead end of the cable around pulley H and pulley G and hook the bead onto the Adjustable Anchor.




13. Wind the hook end of the cable around pulley E and pulley F.



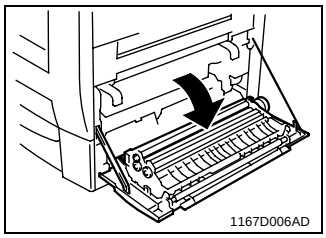

14. Fit the hook end of the cable into the groove in the Cable Guide and hook the spring.

15. Peel off the tape from the pulleys at the front and rear.
16. Mount the Scanner.
17. Mount the Original Size Detection Sensor.
18. Reinstall the Left IR Cover.
19. Reinstall the Original Glass and ADF Glass Assy.
20. Perform the Focus-Positioning of the Scanner and 2nd/3rd Mirrors Carriage. (For details, see ADJUSTMENT.)

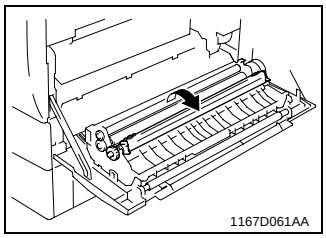
***NOTE***
*Whenever the Scanner Drive Cables have been removed, be sure to make the following adjustment: CD of Zoom Adjust (IR).*

## 2-5. IMAGE TRANSFER SECTION

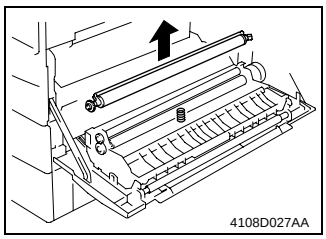
### (1) Removal of the Image Transfer Roller




1. Open the Side Cover.



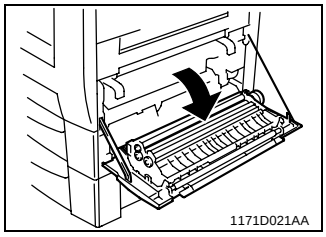

2. Raise the Image Transfer Guide Plate.



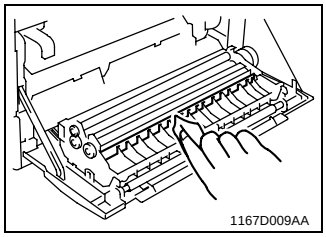

3. Remove the Image Transfer Roller and replace it.

***NOTE***
*Do not touch the surface of the Image Transfer Roller directly with bare hands.*

### (2) Cleaning of the Comb Electrode



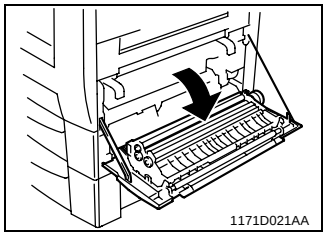

1. Open the Side Cover.



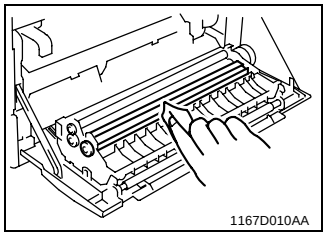

2. Using a soft cloth dampened with alcohol, wipe the Comb Electrode.

***NOTES***
- *Make sure the alcohol does not touch the surface of the Image Transfer Roller.*
- *When wiping the Comb Electrode, make sure the cloth is not caught by the ends of the combs.*

**(3) Cleaning of the Pre-Image Transfer Guide Plate**



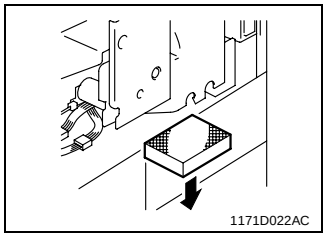

1. Open the Side Cover.




2. Using a soft cloth dampened with alcohol, wipe the Pre-Image Transfer Guide Plate.

***NOTE***
*Make sure the alcohol does not touch the surface of the Image Transfer Roller.*

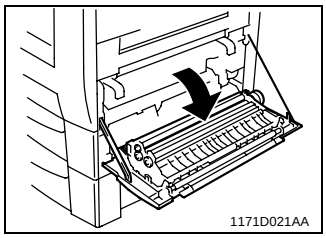
**(4) Replacement of the Ozone Filter**



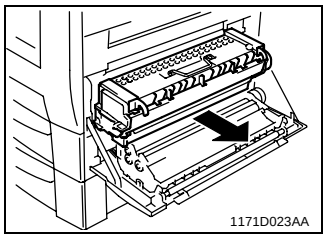

1. Remove the Rear Lower Cover.
2. Pull out the Ozone Filter and replace it.

## 2-6. DEVELOPING SECTION

### (1) Removal of the Imaging Cartridge




1. Open the Side Cover.

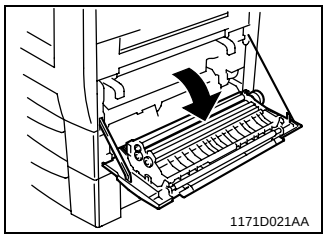



2. Holding onto the green handles, slide the Imaging Cartridge part of the way out.
3. Then grasp the handle on top of the cartridge and pull the cartridge out.

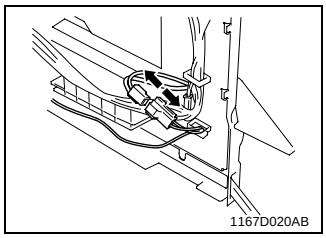
***NOTE***
*When installing the Imaging Cartridge, push it all the way into the machine.*
*If the cartridge is not properly installed, the PC Drum protective shutter of the cartridge may not be opened or may even be damaged.*

## 2-7. FUSING SECTION

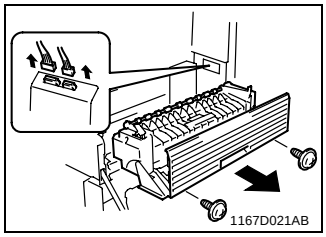
### (1) Removal of the Fusing Unit




1. Open the Side Cover.

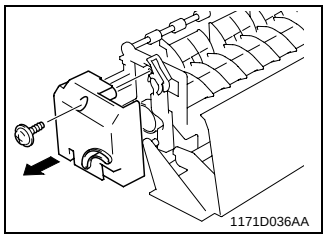



2. Remove the Front Cover.
3. Unplug one connector at the front.

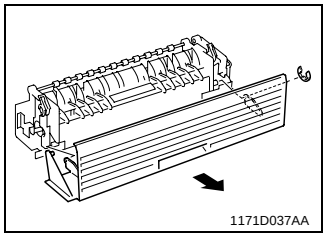



4. Open the Exit Cover and unplug two connectors in the rear.
5. Close the Exit Cover and remove two screws and the Fusing Unit.

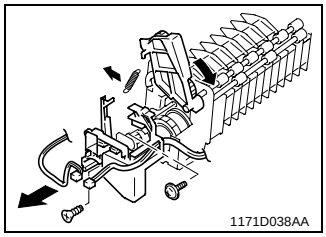
### (2) Removal of the Fusing Roller Heater Lamp, Fusing Right Roller, Fusing Left Roller, Fusing Roller Thermistor, Fusing Roller Thermostat, and Fusing Roller Heater Lamp Fuse



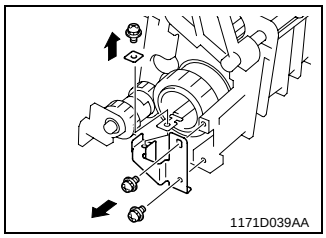

1. Open the Exit Cover.
2. Remove one screw and the Fusing Front Cover.



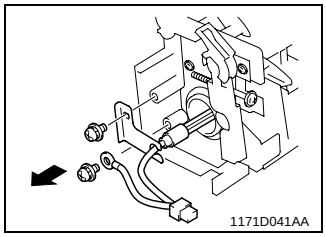

3. Snap off one E-ring and remove the Exit Cover.



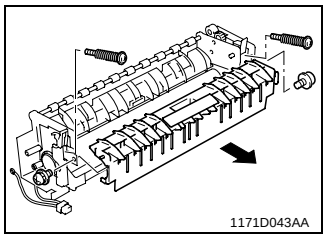

4. Unhook one spring to free the Idle Lever.
5. Remove two harnesses.
6. Remove two screws and the Rear Cover.



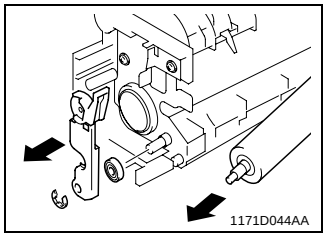

7. Remove three screws and the rear Lamp Holder.



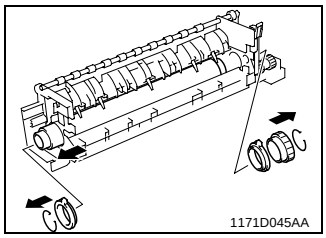

8. Remove one screw and the front Lamp Holder.
9. Remove one screw and the Fusing Roller Heater Lamp.



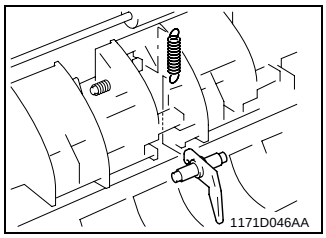

10. Remove two screws and the Fusing Rear Guide Assy.
11. Remove two pressure springs.



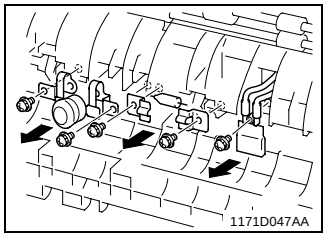

12. Snap off one E-ring and remove the front Misfeed Clearing Lever Assy and bearing.
13. Remove the Fusing Right Roller.




14. Snap off two retaining rings.
15. Remove one gear and two bushings.
16. Remove the Fusing Left Roller.




***NOTE***
*When the Fusing Left Roller is removed, it can cause the spring to come off the Separator Finger. After the Fusing Left Roller has later been reinstalled, be sure to hook the spring onto the Separator Finger.*

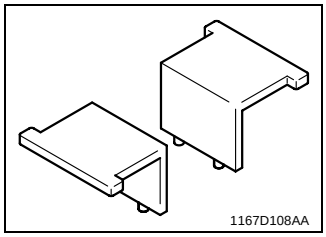



17. Remove one screw and the Fusing Roller Thermistor.
18. Remove two screws and the Fusing Roller Heater Lamp Fuse.
19. Remove two screws and the Fusing Roller Thermostat.

# 3 ADJUSTMENT

## 3-1. ADJUSTMENT JIGS AND TOOLS USED

1. Scanner/Mirrors Carriage Positioning Jigs

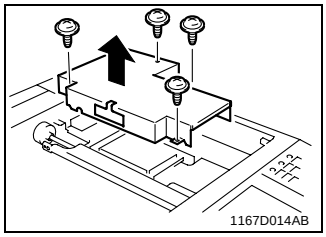



## 3-2. ADJUSTMENT REQUIREMENT LIST

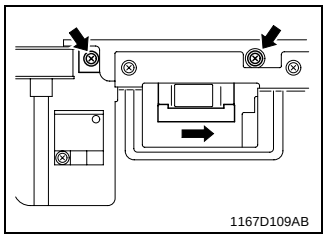
| Adjustment Item | Requirements | Adjustment Point | Ref. Page |
|---|---|---|---|
| Touch Panel Adj. | Automatically adjusted | Control Panel | D-32 |
| Original Size Detecting Sensor Adjustment | ↑ | ↑ | D-33 |
| Loop Adjustment | — | ↑ | D-34 |
| Edge Erase | | | |
| Leading | — | ↑ | D-35 |
| Trailing | — | ↑ | D-36 |
| Right/Left | — | ↑ | D-37 |
| Registration (CD) (Printer) | 10 ± 2.0 mm | ↑ | D-38 |
| Registration (FD) (Printer) | ↑ | ↑ | D-40 |
| Registration (IR) | | | |
| CD | ↑ | ↑ | D-42 |
| FD | ↑ | ↑ | D-44 |
| Zoom Adjust (IR) | | | |
| CD | 200 ±1.0 mm | ↑ | D-46 |
| FD | 300 ±1.5 mm | ↑ | D-48 |
| IR-Erasure Width | — | ↑ | D-50 |

## 3-3. ADJUSTMENT OF BELT TENSION

- Adjustment of the Scanner Motor Timing Belt




1. Remove the Original Glass.
2. Remove four screws and the Cover.




3. Loosen the two screws that secure the Scanner Motor. Using a bar tension gage, pull the motor to the right with a tension of 1000 g ±50 g and, at the same time, tighten the mounting screws.

***NOTE***
*After the adjustment, turn the timing belt to check that the belt teeth are in mesh with the pulley grooves.*

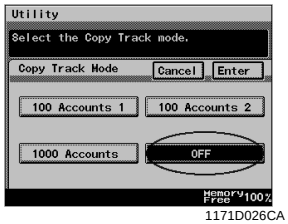
## 3-4. TEST PRINT

***NOTES***

*This function is used to make the following electrical and image adjustments:*

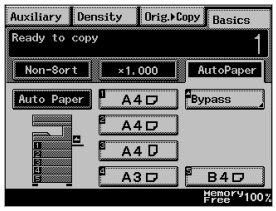
- *Registration (CD) (Printer)*
- *Registration (FD) (Printer)*
- *Registration (IR)*
- *Zoom Adjust (IR)*

◎ Adjustment Procedure



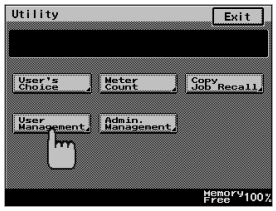
1171D026CA

1. Check that “Copy Track Mode” of “Copy Track” under “Admin. Management” available from “Utility” is “OFF.”



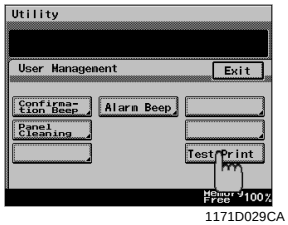
1171D027CA

2. Select the paper source for the test print.



1171D028CA

3. Press the Utility key on the control panel and touch [User Management].



1171D029CA

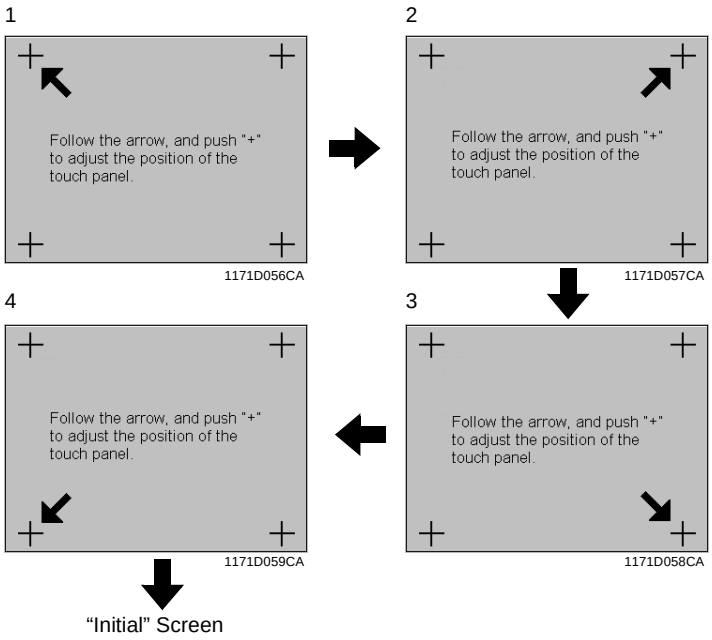
4. Touch [Test Print] to produce a test pattern.

## 3-5. ELECTRICAL/IMAGE ADJUSTMENT

### (1) Touch Panel Adj.

***NOTE***
*Make this adjustment after either of the following procedures have been performed:*
- *Memory Clear*
- *Control Panel replacement*

◎ Adjustment Procedure
1. Call the Initial mode to the screen. (For details, see SWITCHES ON PWBs, TECH. REP. SETTINGS.)
2. Touch [Touch Panel Adj.].




3. Touch + on screen 1.

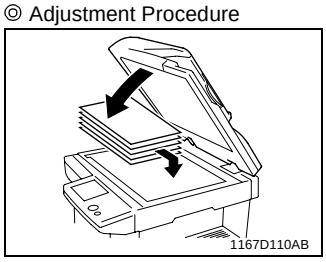
***NOTE***
*At this time, ensure that the very center of "+" is touched using the tip of a ballpoint pen or similar device.*

4. Touch + on screen 2.
5. Touch + on screen 3.
6. Touch + on screen 4.

### (2) Original Size Detecting Sensor Adjustment (F7-1)

***NOTE***
*Make this adjustment after any of the following procedures have been performed:*
- *Memory Clear*
- *A faulty original size detection occurs*
- *Replacement of the CCD Unit and Scanner parts (including the Exposure Lamp)*
- *RAM Board replacement*

◎ Adjustment Procedure




1. Stack five sheets of blank A3 or 11" × 17" paper on the Original Glass and lower the Original Cover.
2. Call the Tech. Rep. mode to the screen.
3. Touch [Function] to call the Function menu.
4. Touch F7-1 Original Size Detecting Sensor Adjustment.
5. Press the Start key to run the Original Size Detecting Sensor Adjustment function.

***NOTE***
*The Start key remains lit up orange while this function is being run and lights up green as soon as the sequence is completed.*

### (3) Loop Adjustment

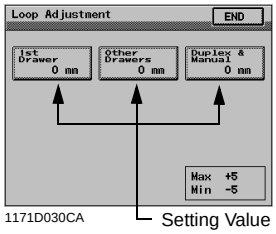
**Requirement**
Adjust so that a correct loop is formed before the Synchronizing Rollers when paper is fed through.

| Adjust Mode | Setting Value |
|---|---|
| Loop Adjustment | -5 to +5 |

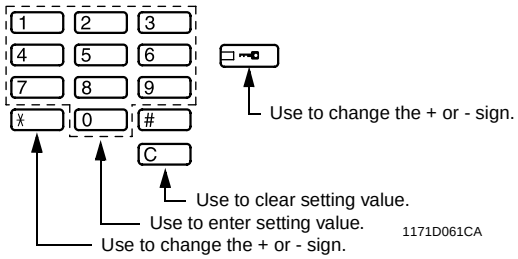
***NOTE***
*This adjustment is to be made when any of the following symptoms occurs: variations in the amount of print leading edge void, paper skew, and misfeed.*

◎ Adjustment Procedure
1. Call the Tech. Rep. mode to the screen.
2. Touch [Tech. Rep. Choice], then [Printer].
3. Touch [Loop Adjustment] to enter the Loop Adjustment mode.
4. Select the paper source for which the adjustment is to be made.
5. Press the Clear key to clear the current setting.
6. Enter the new setting value from the 10-Key Pad.

**Setting Instructions**
Change the setting value as necessary until there are no variations in the amount of void image along the leading edge, skewed feeding, dog-ear, or misfeed.



1171D030CA



1171D061CA

7. Touch the [END] key to validate the setting value.

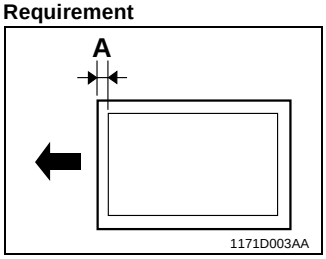
**Caution**
Be sure to touch the END key before returning to normal operation mode. If the Panel Reset Key is used, the previous setting remains valid.

8. Perform the same steps to adjust for the other paper sources.

### (4) Edge Erase

1. Leading

**Requirement**




Adjust so that the erase width on the leading edge falls within the range of 0 to 5 mm.

| Adjust Mode | Setting Range |
|---|---|
| Edge Erase/Leading | 0 to 5 |

***NOTE***

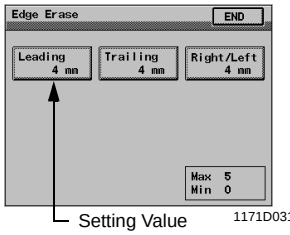
*This adjustment must be made when the PH Unit has been replaced and after Registration (CD/FD) (Printer) has been made.*

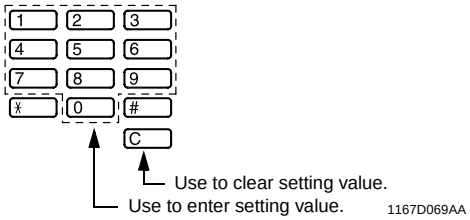
◎ Adjustment Procedure

1. Call the Tech. Rep. mode to the screen.
2. Touch [Tech. Rep. Choice], then [Printer].
3. Touch [Edge Erase] and then [Leading] to enter the Leading Edge Erase adjustment mode.
4. Press the Clear key to clear the current setting.
5. Enter the new setting value from the 10-Key Pad.

**Setting Instructions**

To make the edge erase width smaller, decrease the setting value.
To make the edge erase width greater, increase the setting value.



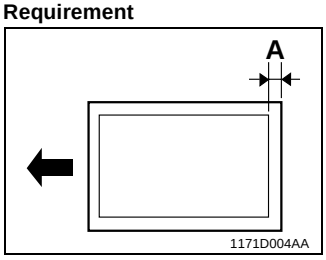

6. Touch the [END] key to validate the setting value.

**Caution**

Be sure to touch the END key before returning to normal operation mode. If the Panel Reset Key is used, the previous setting remains valid.

2. Trailing

**Requirement**



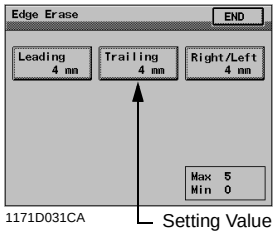

Adjust so that the erase width on the trailing edge falls within the range of 0 to 5 mm.

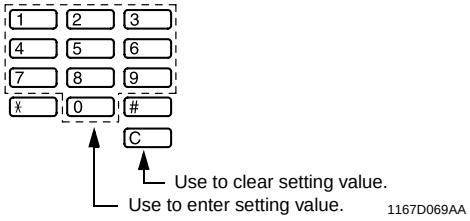
| Adjust Mode | Setting Range |
|---|---|
| Edge Erase/Trailing | 0 to 5 |

***NOTE***
*This adjustment must be made when the PH Unit has been replaced and after Registration (CD/FD) (Printer) has been made.*

◎ Adjustment Procedure
1. Call the Tech. Rep. mode to the screen.
2. Touch [Tech. Rep. Choice], then [Printer].
3. Touch [Edge Erase] and then [Trailing] to enter the Trailing Edge Erase adjustment mode.
4. Press the Clear key to clear the current setting.
5. Enter the new setting value from the 10-Key Pad.

**Setting Instructions**
To make the edge erase width smaller, decrease the setting value.
To make the edge erase width greater, increase the setting value.



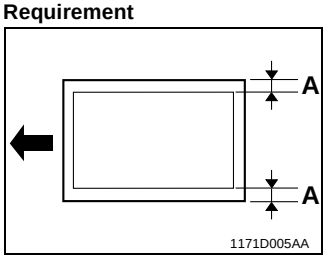




6. Touch the [END] key to validate the setting value.

**Caution**
Be sure to touch the END key before returning to normal operation mode. If the Panel Reset Key is used, the previous setting remains valid.

3. Right/Left

**Requirement**




Adjust so that the erase width on the right/left edge falls within the range of 0 to 5 mm.

| Adjust Mode | Setting Range |
|---|---|
| Edge Erase/Right/Left | 0 to 5 |

***NOTE***

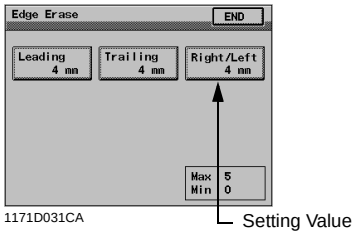
*This adjustment must be made when the PH Unit has been replaced and after Registration (CD) (Printer) have been made.*

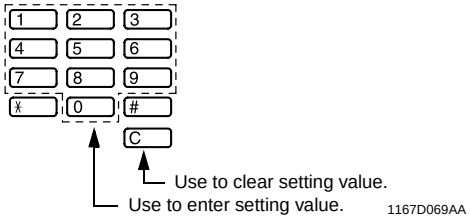
◎ Adjustment Procedure

1. Call the Tech. Rep. mode to the screen.
2. Touch [Tech. Rep. Choice], then [Printer].
3. Touch [Edge Erase] and then [Right/Left] to enter the Right/Left Edge Erase adjustment mode.
4. Press the Clear key to clear the current setting.
5. Enter the new setting value from the 10-Key Pad.

**Setting Instructions**

To make the edge erase width smaller, decrease the setting value.
To make the edge erase width greater, increase the setting value.



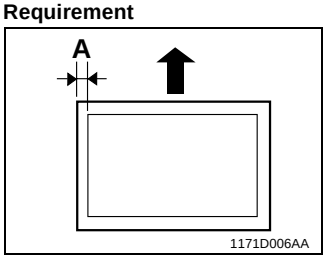

6. Touch the [END] key to validate the setting value.

**Caution**

Be sure to touch the END key before returning to normal operation mode. If the Panel Reset Key is used, the previous setting remains valid.

### (5) Registration (CD) (Printer)

**Requirement**




Adjust so that width A on the test pattern output falls within the following range.

| Specification | Adjust Mode | Setting Range |
|---|---|---|
| 1-Sided: 10 ±2.0 mm<br>2-Sided: 10 ±3.0 mm | Registration (CD) | -4.0 to +4.0 |

***NOTE***

*This adjustment must be made when the PH Unit has been replaced and, for 2-sided, after Registration (CD) (Printer) for each paper source for 1-sided and Registration (FD) (Printer) have been made.*

◎ Adjustment Procedure

1. Produce a test pattern. (For details, see 3-4. TEST PRINT.)
2. 1-Sided: Check to see if width A on the test pattern meets the specifications.
   2-Sided: Using the test pattern output as the original, make an ordinary 2-sided copy. Check to see if width A on the second side of the 2-sided copy meets the specifications.

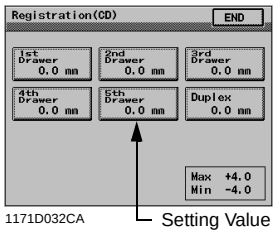
   If width A falls outside the specified range, perform these steps to make the adjustment.

3. Call the Adjust mode to the screen.
4. Touch [Printer] and [Registration (CD)], in that order.
5. Select the paper source for which the adjustment is to be made.
6. Press the Clear key to clear the current setting.
7. Enter the new setting value from the 10-Key Pad.

**Setting Instructions**

If width A is wider than specifications, make the setting value smaller than the current one. If width A is narrower than specifications, make the setting value greater than the current one.

✻ If a single adjustment procedure does not successfully bring width A into the specified range, try another setting value.



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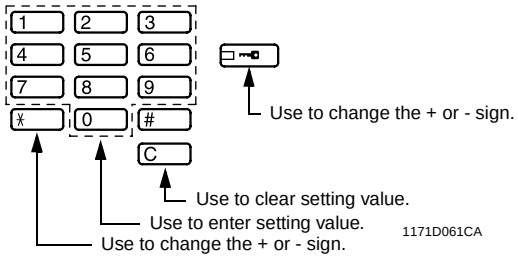


1171D061CA

8. Touch the [END] key to validate the setting value.

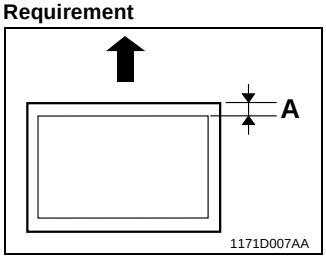
**Caution**

Be sure to touch the END key before returning to normal operation mode. If the Panel Reset Key is used, the previous setting remains valid.

9. Perform the same steps to adjust for the other paper sources.

### (6) Registration (FD) (Printer)

**Requirement**




Adjust so that width A on the test pattern output falls within the following range.

| Specification | Adjust Mode | Setting Range |
|---|---|---|
| 10 ±2.0 mm | Registration (FD) | -19 to +19 |

***NOTE***

*This adjustment must be made when the PH Unit has been replaced and after Registration (CD) (Printer) has been made.*

◎ Adjustment Procedure

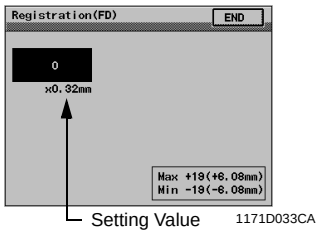
1. Produce a test pattern. (For details, see 3-4. TEST PRINT.)
2. Check to see if width A on the test pattern meets the specifications.
   If width A falls outside the specified range, perform these steps to make the adjustment.

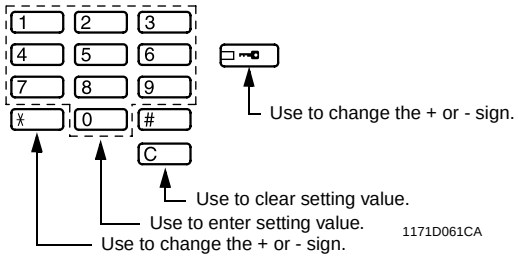
3. Call the Adjust mode to the screen.
4. Touch [Printer] and [Registration (FD)], in that order.
5. Select the paper source for which the adjustment is to be made.
6. Press the Clear key to clear the current setting.
7. Enter the new setting value from the 10-Key Pad.

**Setting Instructions**

If width A is wider than specifications, make the setting value smaller than the current one. If width A is narrower than specifications, make the setting value greater than the current one.

✻ If a single adjustment procedure does not successfully bring width A into the specified range, try another setting value.




8. Touch the [END] key to validate the setting value.

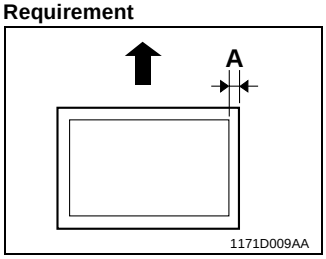
**Caution**

Be sure to touch the END key before returning to normal operation mode. If the Panel Reset Key is used, the previous setting remains valid.

### (7) Registration (IR)

1. CD

**Requirement**




Place the test pattern output after the adjustments of Registration (CD and FD) (Printer) have been completed on the Original Glass and make a copy of it. Adjust so that width A on the test pattern copy falls within the following range.

| Specification | Adjust Mode | Setting Range |
|---|---|---|
| 10 ±2.0 mm | Registration (CD) | -127 to +127 |

***NOTE***

*This adjustment must be made when the PH Unit has been replaced and after the adjustments of Registration (CD and FD) (Printer) and CD of Zoom Adjust (IR) have been made.*

◎ Adjustment Procedure

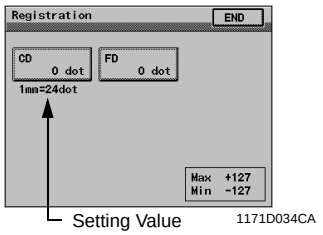
1. After the adjustments of Registration (CD and FD) (Printer) and CD of Zoom Adjust (IR) have been completed, produce a test pattern. (For details, see 3-4. TEST PRINT.)
2. Place the test pattern output on the Original Glass and make a copy of it.
3. Check to see if width A on the test pattern copy meets the specifications.
   If width A falls outside the specified range, perform these steps to make the adjustment.

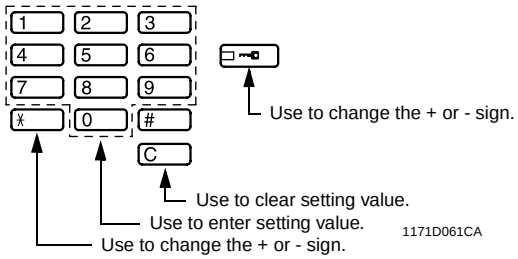
4. Call the Adjust mode to the screen.
5. Touch [IR], [Registration], and [CD], in that order.
6. Press the Clear key to clear the current setting.
7. Enter the new setting value from the 10-Key Pad.

**Setting Instructions**

If width A is wider than specifications, make the setting value smaller than the current one. If width A is narrower than specifications, make the setting value greater than the current one.

✻ If a single adjustment procedure does not successfully bring width A into the specified range, try another setting value.



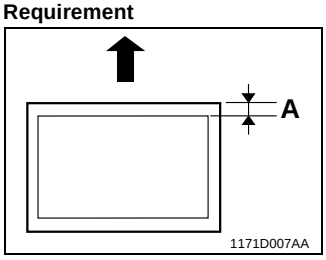

8. Touch the [END] key to validate the setting value.

**Caution**

Be sure to touch the END key before returning to normal operation mode. If the Panel Reset Key is used, the previous setting remains valid.

2. FD

**Requirement**




Place the test pattern output after the adjustments of Registration (CD and FD) (Printer) have been completed on the Original Glass and make a copy of it. Adjust so that width A on the test pattern copy falls within the following range.

| Specification | Adjust Mode | Setting Range |
|---|---|---|
| 10 ±2.0 mm | Registration (FD) | -127 to +127 |

***NOTE***

*This adjustment must be made when the PH Unit has been replaced and after the adjustments of Registration (CD and FD) (Printer) and FD of Zoom Adjust (IR) have been made.*

◎ Adjustment Procedure

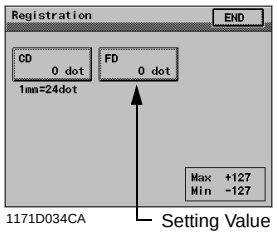
1. After the adjustments of Registration (CD and FD) (Printer) and FD of Zoom Adjust (IR) have been completed, produce a test pattern. (For details, see 3-4. TEST PRINT.)
2. Place the test pattern output on the Original Glass and make a copy of it.
3. Check to see if width A on the test pattern copy meets the specifications.
   If width A falls outside the specified range, perform these steps to make the adjustment.

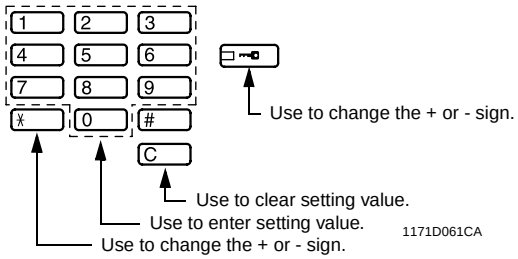
4. Call the Adjust mode to the screen.
5. Touch [IR], [Registration], and [FD], in that order.
6. Press the Clear key to clear the current setting.
7. Enter the new setting value from the 10-Key Pad.

**Setting Instructions**

If width A is wider than specifications, make the setting value smaller than the current one.
If width A is narrower than specifications, make the setting value greater than the current one.

✻ If a single adjustment procedure does not successfully bring width A into the specified range, try another setting value.




8. Touch the [END] key to validate the setting value.

**Caution**

Be sure to touch the END key before returning to normal operation mode. If the Panel Reset Key is used, the previous setting remains valid.

**(8) Zoom Adjust (IR)**

1. CD

**Requirement**

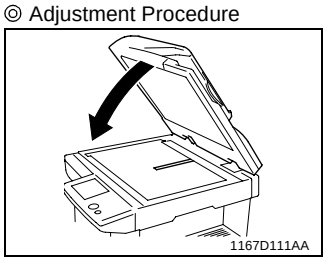
1. The difference should be within ±1.0% of the actual length.
2. Adjust so that the following specifications are satisfied with a scale length of 300 mm.

| Zoom Ratio | Specification | Adjust Mode | Setting Range |
|---|---|---|---|
| Full size (×1.000) | 300 ±3.0 mm | Zoom Adjust (CD) | 0.990 to 1.010 |

***NOTE***

*This adjustment must be made when the Scanner Drive Cables have been replaced and after the adjustments of Registration (CD and FD) (Printer) have been made.*

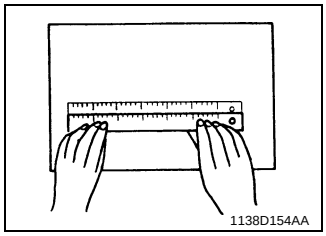
◎ Adjustment Procedure




1. Place a scale in parallel with the Original Width Scale and make a copy. (Note that the scale is perpendicular to the Original Length Scale.)

✻ Use the full size (×1.000) mode and A3 or 11" × 17" paper.

✻ If the scale is of plastic and transparent, place a blank sheet of paper over it.




2. Measure the length of the scale on the copy to find the difference.

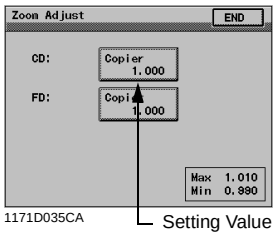
✻ If the difference is outside the specification, adjust by following the procedure shown below.

3. Call the Adjust mode to the screen.
4. Touch [IR], [Zoom Adjust], and [CD], in that order.
5. Press the Clear key to clear the current setting.
6. Enter the new setting value from the 10-Key Pad.

**Setting Instructions**

If the scale on the copy is longer than the actual scale, decrease the setting value.
If the scale on the copy is shorter than the actual scale, increase the setting value.

✻ If the measurement does not fall within the specifications through one setting, try another setting.



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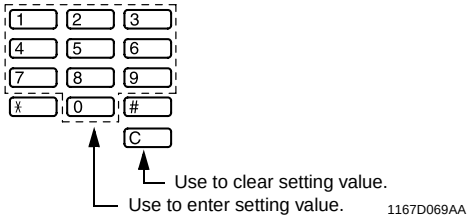


1167D069AA

7. Touch the [END] key to validate the setting value.

**Caution**

Be sure to touch the END key before returning to normal operation mode. If the Panel Reset Key is used, the previous setting remains valid.

2. FD

**Requirement**

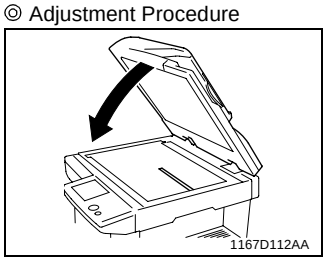
1. The difference should be within ±1.0% of the actual length.
2. Adjust so that the following specifications are satisfied with a scale length of 200 mm.

| Zoom Ratio | Specification | Adjust Mode | Setting Range |
|---|---|---|---|
| Full size (×1.000) | 200 ±2.0 mm | Zoom Adjust (FD) | 0.990 to 1.010 |

***NOTE***

*This adjustment must be made when the CCD Unit has been replaced and after the adjustments of Registration (CD and FD) (Printer) have been made.*

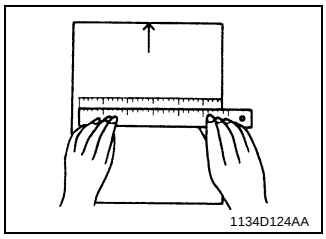
◎ Adjustment Procedure




1. Place a scale in parallel with the Original Length Scale and make a copy.

✻ Use the full size (X1.000) mode and paper with a width of 200 mm or more.

✻ If the scale is of plastic and transparent, place a blank sheet of paper over it.




2. Measure the length of the scale on the copy to find the difference.

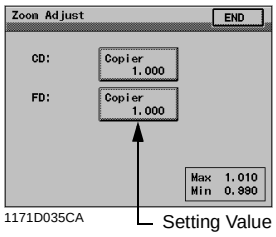
✻ If the difference is outside the specification, adjust by following the procedure shown below.

3. Call the Adjust mode to the screen.
4. Touch [IR], [Zoom Adjust], and [FD], in that order.
5. Press the Clear key to clear the current setting.
6. Enter the new setting value from the 10-Key Pad.

**Setting Instructions**

If the scale on the copy is longer than the actual scale, decrease the setting value.
If the scale on the copy is shorter than the actual scale, increase the setting value.

✻ If the measurement does not fall within the specifications through one setting, try another setting.

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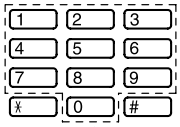



Use to clear setting value.
Use to enter setting value.

1167D069AA

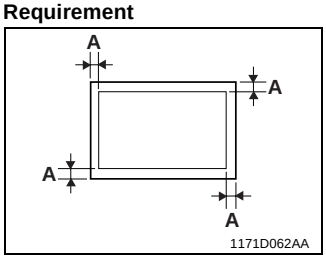
7. Touch the [END] key to validate the setting value.

**Caution**

Be sure to touch the END key before returning to normal operating mode. If the Panel Reset Key is used, the previous setting remains valid.

### (9) IR-Erasure Width

**Requirement**



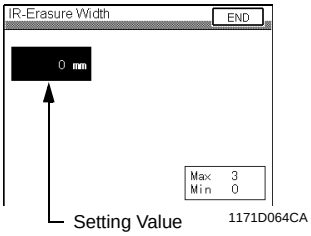

Set so that the erase width along four edges of the paper falls within the range of 0 to 3 mm.

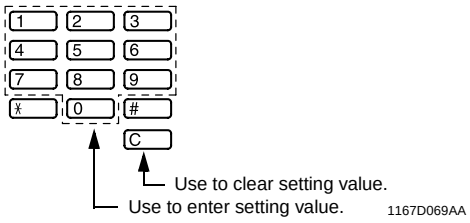
| Adjust Mode | Setting Range |
|---|---|
| IR-Erasure Width | 0 to 3 |

***NOTE***
*This adjustment must be made when a shadow is produced from the Original Scale.*

◎ Adjustment Procedure
1. Call the Tech. Rep. mode to the screen.
2. Touch [Tech. Rep. Choice].
3. Touch [IR-Erasure Width] to enter the IR-Erasure Width mode.
4. Press the Clear key to clear the current setting.
5. Enter the new setting value from the 10-Key Pad.

**Setting Instructions**
To make the erase width along four edges of the paper smaller, decrease the setting value.
To make the erase width along four edges of the paper greater, increase the setting value.




6. Touch the [END] key to validate the setting value.

**Caution**
Be sure to touch the END key before returning to normal operation mode. If the Panel Reset Key is used, the previous setting remains valid.

## 3-6. OTHER ADJUSTMENTS

- Focus-Positioning of the Scanner and 2nd/3rd Mirrors Carriage

***NOTE***

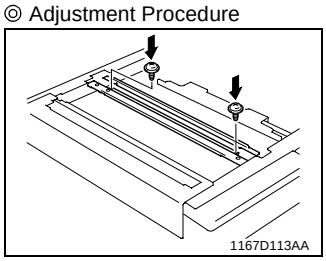
*Make this adjustment after any of the following procedures has been performed:*

- *After the Scanner Drive Cable has been replaced.*
- *When the Scanner Fixing Bracket has been removed from the Scanner Drive Cable.*
- *When the Scanner Drive Cable comes unwound.*

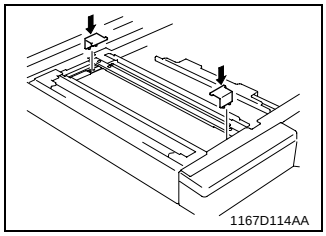
**Requirement**

With the Scanner fixed to the Scanner Drive Cables, there should be no gap between the Scanner/Mirrors Carriage Positioning Jig and the Scanner and also between the Scanner/ Mirrors Carriage Positioning Jig and the 2nd/3rd Mirrors Carriage.

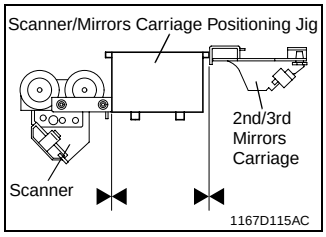
◎ Adjustment Procedure



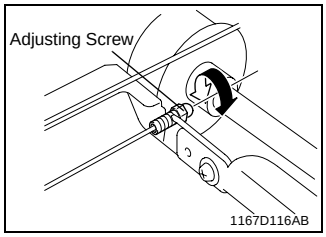

1. Remove the Exposure Lamp. (For details, see steps 1 through 7, (8) Removal of the Scanner, 2-4 OPTICAL SECTION.)
2. Temporarily loosen the set screws of the cable holding plate of the Scanner Drive Cable.




3. Fit the Scanner/Mirrors Carriage Positioning Jigs in the space between the Scanner and 2nd/3rd Mirrors Carriage.

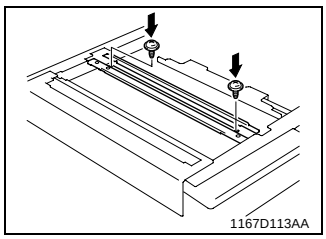



4. Press the Scanner up against the jig and 2nd/3rd Mirrors Carriage and, at the same time, tighten the set screws of the cable holding plate.

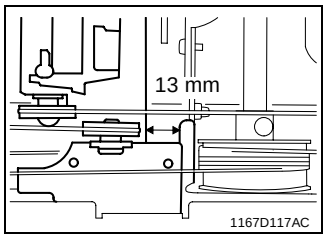



***NOTE***
*If the Scanner does not run parallel with the 2nd/3rd Mirrors Carriage when the Scanner/Mirrors Carriage Positioning Jigs are in position, turn the adjusting screw for the rear Scanner Drive Cable as necessary.*

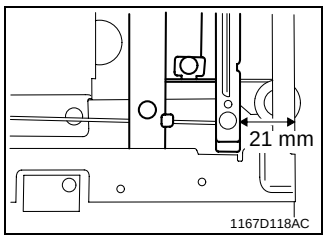
✻ If the Scanner/Mirrors Carriage Positioning Jigs are not available, follow these steps to make the adjustment.



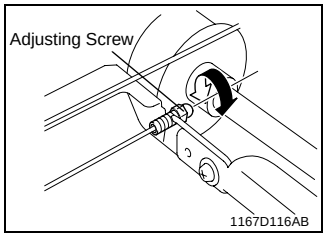

1. Temporarily loosen the set screws of the cable holding plate of the Scanner Drive Cable.




2. Obtain a distance of 13 mm between the 2nd/3rd Mirrors Carriage and rail.



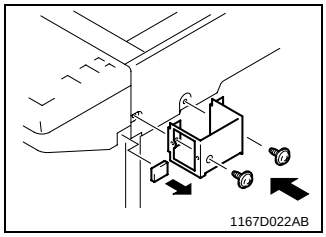

3. Secure the Scanner where it is located at a position 21 mm from the right side face.
4. Tighten the set screws of the cable holding plate.



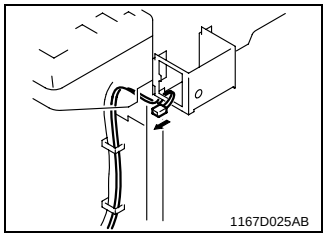

***NOTE***
*If the Scanner does not run parallel with the 2nd/3rd Mirrors Carriage, turn the adjusting screw for the rear Scanner Drive Cable as necessary.*

# 4 MISCELLANEOUS

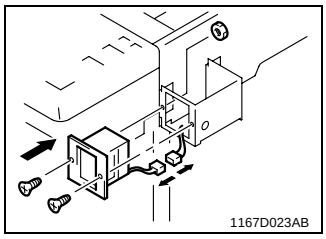
## 4-1. INSTALLATION OF THE KEY COUNTER SOCKET (OPTION)



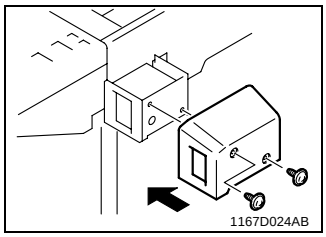

1. Remove the Front Cover.
2. Remove the knockout from the Front Upper Cover.
3. Using two screws, secure the Counter Mounting Bracket.




4. Route the harness of the Key Counter as shown.




5. Connect the Key Counter Socket connector.
6. Using one screw and one screw and nut, secure the counter socket.




7. Using two screws, secure the Key Counter Cover.

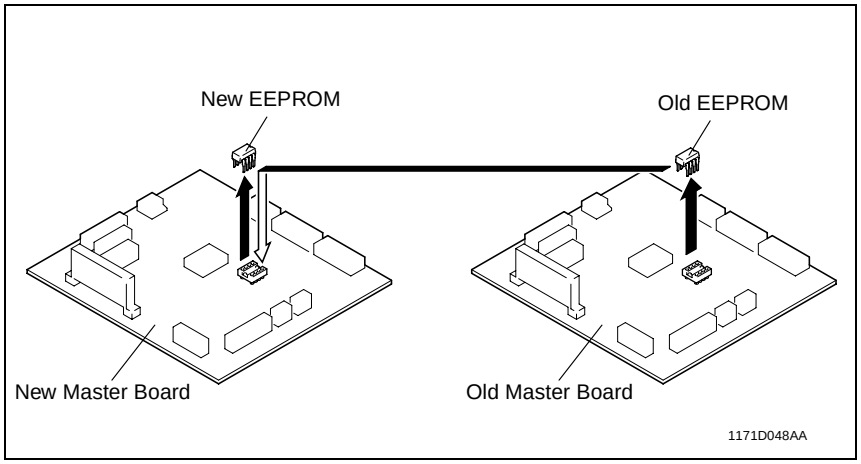
***NOTE***
*When the Key Counter Socket is mounted, set to "ON" the "Key Counter" available from the Security mode.*

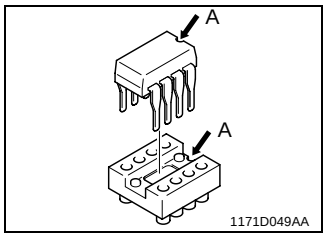
## 4-2. REMOUNTING THE EEPROM (IC3A)

***NOTES***

- *If the Imaging Cartridge is not to be replaced after the Master Board has been replaced with a new one, be sure to remount the EEPROM (IC3A) from the old to new Master Board.*
- *If the Master Board has been replaced with a new one and the EEPROM (IC3A) has not been remounted, be sure to replace the Imaging Cartridge with a new one. Because the EEPROM contains no data in this case, make settings and readjustments as necessary.*

1. Remove the Master Board. (For details, see 2-2. REMOVAL OF CIRCUIT BOARDS AND OTHER ELECTRICAL COMPONENTS.)
2. Demount the EEPROM (IC3A) from the new Master Board.
3. Demount the EEPROM (IC3A) from the old Master Board and remount it onto the new Master Board.




***NOTE***

*Note the alignment notch on the EEPROM (IC3A) when mounting the IC.*

# Di350

# SWITCHES ON PWBs, TECH. REP. SETTINGS

MINOLTA

17196

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# 1 PRECAUTIONS FOR HANDLING THE PWBs

## 1-1. Precautions for Transportation and Storage

- Before transporting or storing the PWBs, put them in protective conductive cases or bags so that they are not subjected to high temperature and are not exposed to direct sunlight.
- Protect the PWBs from any external force so that they are not bent or damaged.
- Once the PWB has been removed from its conductive case or bag, never place it directly on an object that is easily charged with static electricity (such as a carpet or plastic bag).
- Do not touch the parts and printed patterns on the PWBs with bare hands.

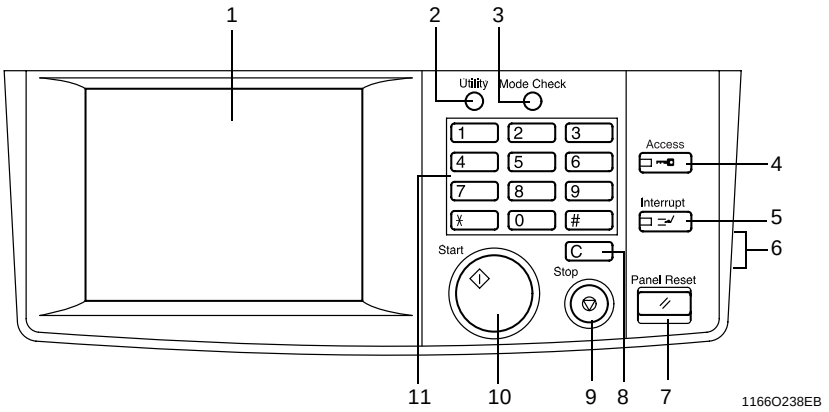
## 1-2. Precautions for Replacement and Inspection

- Whenever replacing the PWB, make sure that the power cord of the copier has been unplugged.
- When the power is on, the connectors should never be plugged in or unplugged.
- Use care not to strap the pins of an IC with a metal tool.
- When touching the PWB, wear a wrist strap and connect its cord to a securely grounded place whenever possible. If you cannot wear a wrist strap, touch the metal part to discharge static electricity before touching the PWB.

# 2 CONTROL PANEL KEYS AND TOUCH PANEL

✻ For more details, see the Operator's Manual shipped with the copier.

## 2-1. Control Panel Keys




1. Touch Panel
- Shows various screens and messages.

2. Utility Key
- Press to show the User Mode menu.

3. Mode Check Key
- Shows the Mode Check screen on which the user can check the current copying settings.

4. Access Mode Key
- Used to enter the access number. After the access number has been entered, pressing this key will allow the user to make copies.

5. Interrupt Key
- Sets the copier into, or lets it leave, the Interrupt mode.

6. Display Contrast Knob
- Turn to vary the brightness of the Touch Panel.

7. Panel Reset Key
- Clears all settings made on the control panel, setting the copier back into the initial mode.
- Cancels currently reserved jobs.

✻ It does not clear the zoom ratios and job settings stored in memory and Interrupt mode.

8. Clear Key
- Clears the number-of-copies setting, zoom ratio, and counter count.
- Cancels the image data read.

9. Stop Key
- Press to stop a scanning cycle.
- Press to stop a print cycle.

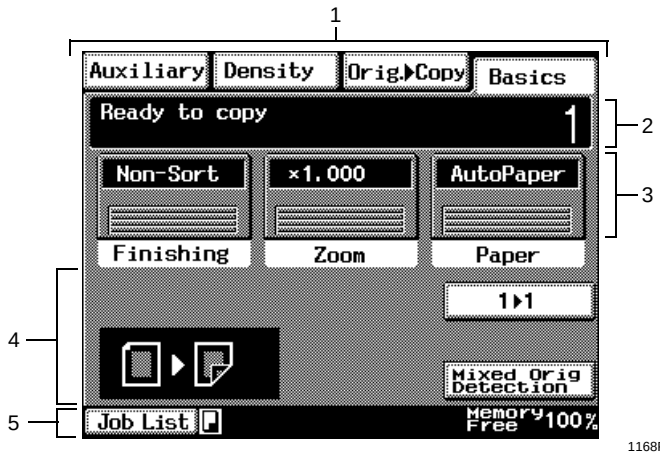
10. Start Key
- Press to start the document scanning sequence.
- Press to start a print cycle.

11. 10-key Pad
- Numeric key pad used for entering the number of copies to be made, zoom ratio, access number, and the Tech. Rep. mode settings.

## 2-2. Explanation of the Touch Panel

### (1) Basic Screen

- The Basic screen is the initial screen that appears when the copier panel is reset or auto reset is activated.




1. Supplementary Function Key
- Selects the corresponding menu screen, either Auxiliary, Density, Orig. ▶ Copy, or Basics.

2. Message Display
- Shows the current copier status, operating instructions, caution/warning messages, and other data including the number of copies selected.

3. Basic Function Keys
- Allows the user to select the finishing, zoom ratio, and copy paper.

4. Function Display
- Shows graphic representations of the settings currently made for Orig. ▶ Copy and Finishing.

5. Status Display
- Shows what is being done with the current job and other data.

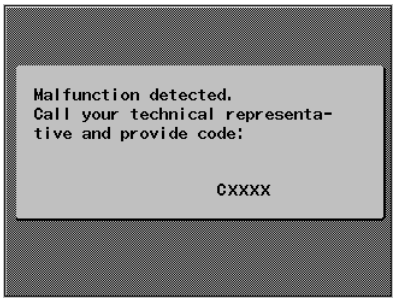
### (2) Warning Screens

- The warning screen may be a malfunction display, error display, warning display, or a caution display.

<Malfunction Display>

- A malfunction display is given when trouble occurs which cannot be corrected by the user.

Example: Malfunctions that can be identified with a specific code.

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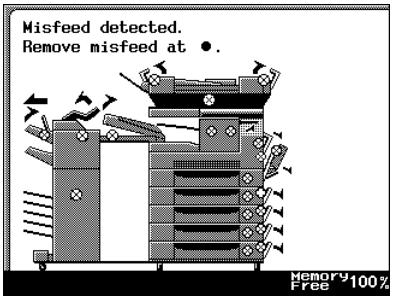
<Error Display>

- An error display is given when trouble occurs which can be corrected by the user.

Example: Paper misfeed, toner empty, door open.

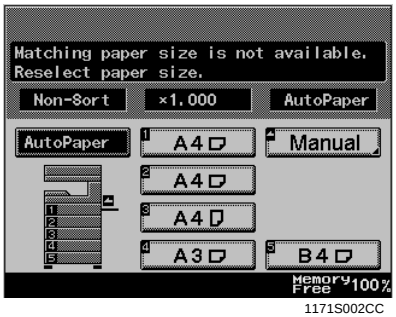



1168P167CD

<Warning Display>

- A warning display is given when any further copier operation will not be possible, or only a defective copy will be produced, because of erroneous or illegal panel settings or other cause.

Example: Unmatched paper size in Auto Paper.

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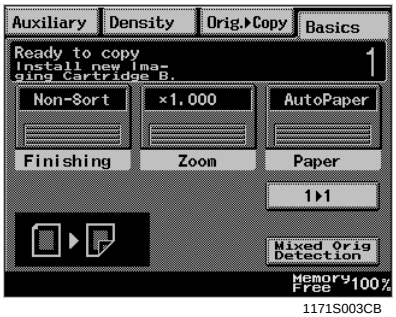
<Caution Display>

- A caution display is given when, though further copier operation will be possible, it could result in a malfunction.

Example: Install new Imaging Cartridge.

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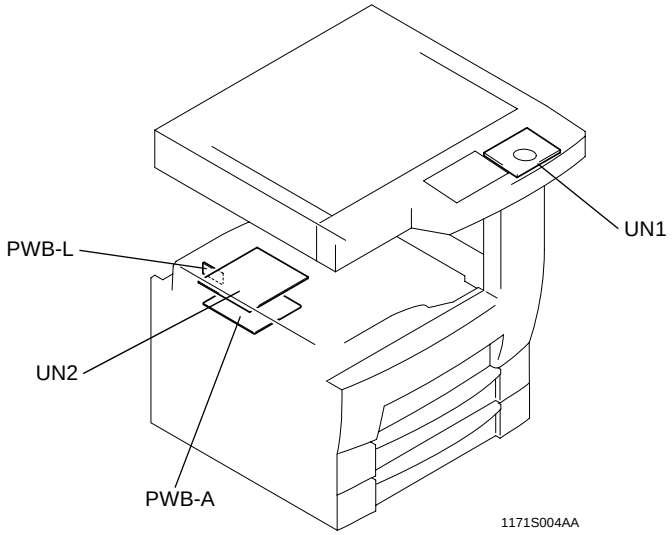
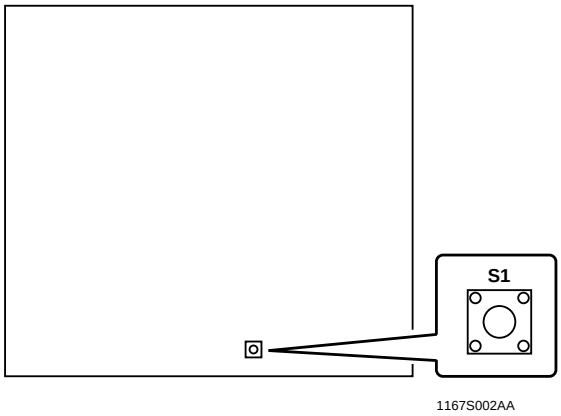
# 3 FUNCTION OF SWITCHES AND OTHER PARTS ON PWBs

## 3-1. PWB Location

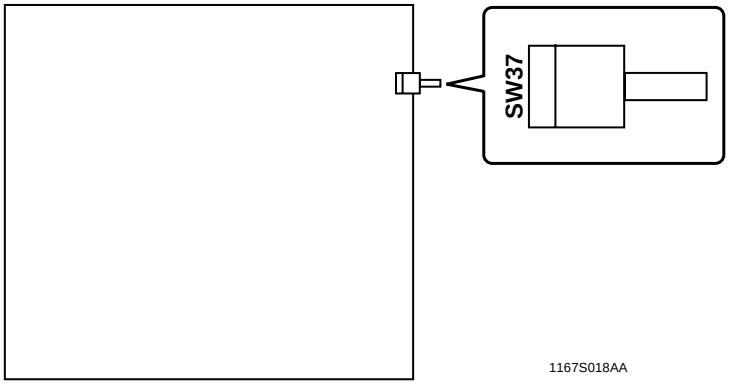



## 3-2. PWB-A (Master Board)



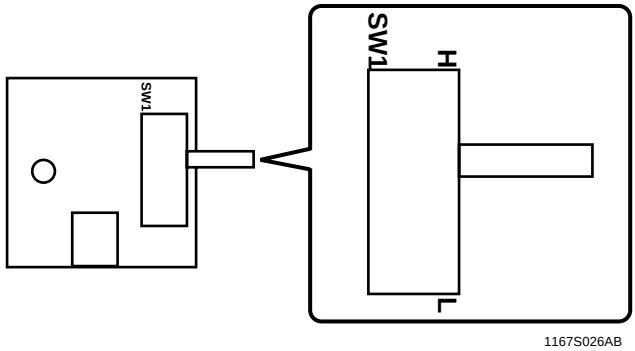

| Symbol | Name | Description |
|---|---|---|
| S1 | Test Print Switch | Used to run a test print cycle. |

### 3-3. UN1 (Control Panel)



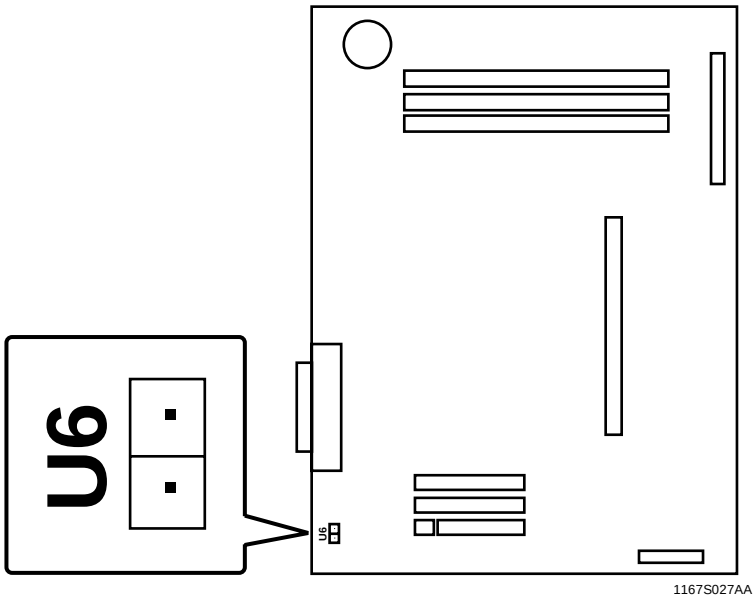

| Symbol | Name | Description |
|---|---|---|
| SW37 | Warm Restart Switch | • Used to enter the initial mode.<br>• Used to restart the copier after a breakdown. |

### 3-4. PWB-L (PPM Switching Board)




| Symbol | Name | Description |
|---|---|---|
| S1 | Low-Speed Mode Selecting Switch | Used to make longer the paper-to-paper intervals as a means of preventing the problem in which sheets of paper are fed out untidily when large size paper left to stand under high humidity condition is being used.<br>✻ Keep this switch in the H position, as it is only for special users. |

## 3-5. UN2 (MFB Board)

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| Symbol | Name | Description |
|---|---|---|
| U6 | Forced Memory Clear | Used when it is not possible to clear RAM by warm restart. |

✻ Be careful about using these pins, as closing these pins clears all data including counter data.

<Clearing Procedure>

1. Turn OFF the Power Switch.
2. Remove the Upper Cover and MFB Box Cover.
3. Close U6 and, in that condition, turn ON the Power Switch.

***NOTE***

*Use care not to close any other circuit.*

4. When the initial screen appears, turn the Power Switch OFF.
5. Open U6.

***NOTE***

*When Forced RAM Clear has been performed, make these adjustments and settings once again in this order:*

*1. "Marketing Area" of "Initial mode"*
*2. "Memory Clear" of "Initial mode"*
*3. Other adjustments and settings as necessary*

<Data/Conditions Cleared by Reset Switches/Pins>

| Switches/Pins / Data/Conditions Cleared | Power Switch OFF/ON | Side Cover open/ close | Initial Mode | | | Forced RAM Clear |
|---|---|---|---|---|---|---|
| | | | Memory Clear | Total Clear | Trouble Reset | |
| Misfeed display | ❍ | ❍ | ❍ | — | ❍ | ❍ |
| Malfunction display (other than Fusing) | ❍ | ❍ | ❍ | — | — | ❍ |
| Malfunction display (all including Fusing) | — | — | ❍ | — | ❍ | ❍ |
| Erratic operation/ display | — | — | ❍ | — | ❍ | ❍ |
| User's Choice | — | — | ❍ | — | — | ❍ |
| Tech. Rep. Mode | — | — | ❍ | — | — | ❍ |
| Counter | — | — | — | ❍ | — | ❍ |
| RD Mode | — | — | — | ❍ | — | ❍ |
| Security Mode | — | — | ❍ | — | — | ❍ |
| Adjust Mode | — | — | — | — | — | ❍ |

❍: Cleared (initialized) —: Not cleared

# 4 USER'S CHOICE MODE

- The User's Choice mode is used to make various settings according to the user's needs.

## 4-1. User's Choice Selection Screen


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## 4-2. User's Choice Function Setting Procedure

<Setting Procedure>

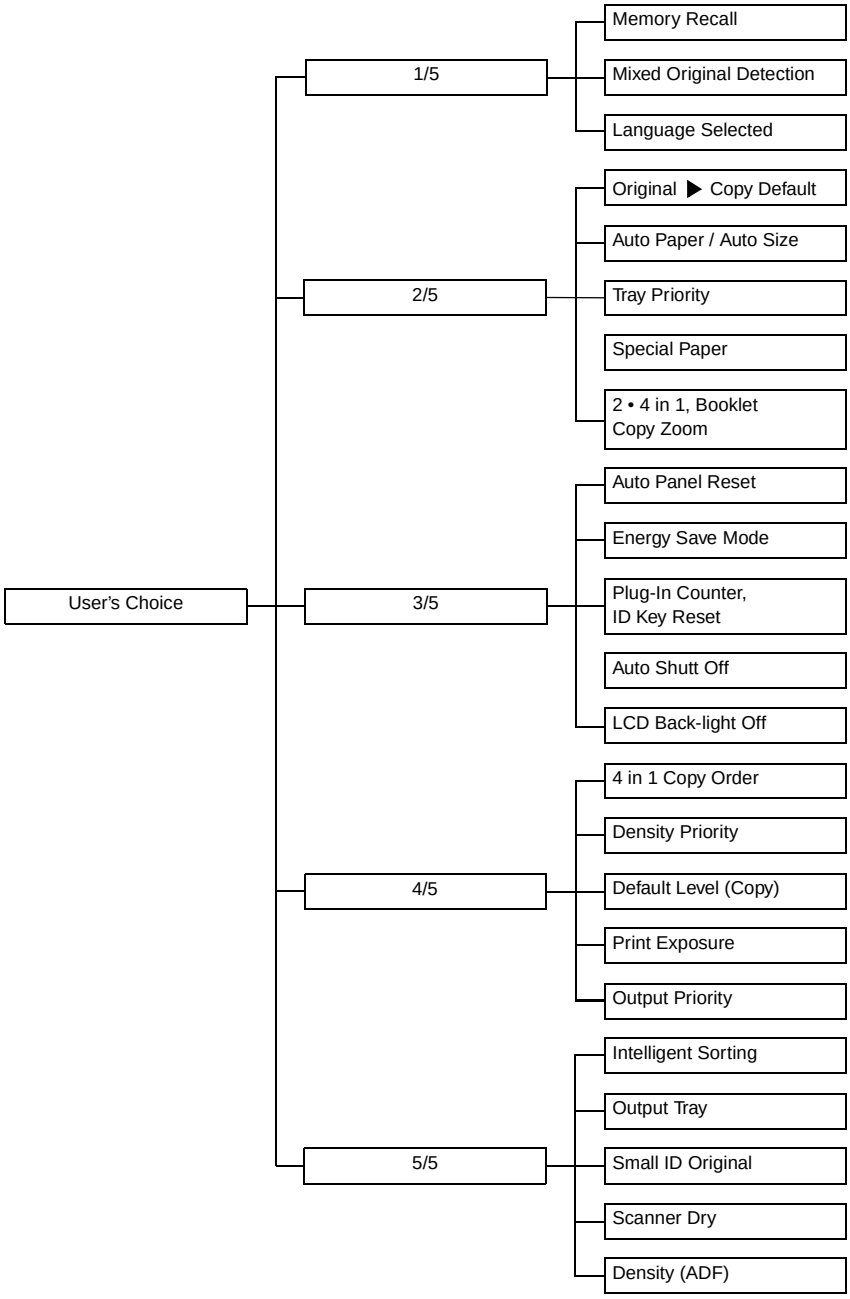
1. Press the Utility key on the control panel and then touch the "User's Choice" key.
2. Select the page number key that contains the desired function from among 1/5 through 5/5 shown at the bottom of the Touch Panel.
3. Select the function to be set and make settings as required.
4. After the settings are complete, touch the "Enter" key to validate the settings.

✻ The function selected is highlighted.

<Exiting the Mode>

- Touch [Exit] on the screen to go back to the Basic screen.

## 4-3. User's Choice Function Tree



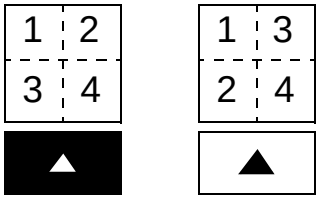
## 4-4. Settings in the User's Choice Mode



<table>
<tr><th>Touch Panel Display</th><th>Setting (The default is Highlighted ).</th></tr>
<tr><td>Memory Recall</td><td>Select whether to enable (“ON”) or disable (“OFF”) the function that retains the image data even after the last copy paper has been fed out, allowing the user to recall the same image data.<br><table><tr><td>ON</td><td>OFF</td></tr></table></td></tr>
<tr><td>Mixed Original Detection</td><td>Select whether to let the system select by default (“ON”) the Mixed Original Detection mode or not (“OFF”) when power is turned ON or the Panel Reset key pressed.<br><table><tr><td>ON</td><td>OFF</td></tr></table></td></tr>
<tr><td>Language Selected</td><td>Select the language of the Touch Panel messages.<br><Metric Areas><br><table><tr><td>ENGLISH</td><td>GERMAN</td><td>FRENCH</td></tr><tr><td>DUTCH</td><td>ITALIAN</td><td>SPANISH</td></tr><tr><td>PORTUGUESE</td><td>DANISH</td><td>NORWEGIAN</td></tr><tr><td>SWEDISH</td><td>FINISH</td><td>JAPANESE</td></tr></table><Inch Areas><br><table><tr><td>ENGLISH</td><td>FRENCH</td><td>SPANISH</td></tr><tr><td>JAPANESE</td></tr></table></td></tr>
</table>

<table>
<tr><th>Touch Panel Display</th><th>Setting (The default is Highlighted ).</th></tr>
<tr><td>Original ▶ Copy Default</td><td>Select the type of Original ▶ Copy setting selected automatically when the copier is turned ON or Panel Reset key pressed. If “Duplex only” is selected for “Simplex/Duplex” of the “Tech. Rep. Choice” function, 1 ▶ 1 is not displayed.<br><1-Sided ▶ 2-Sided><br><table><tr><td>1-Sided ▶<br>2-Sided</td><td>2-Sided ▶<br>2-Sided</td><td>1-Sided ▶<br>1-Sided</td></tr></table><br><1-Sided ▶ 2-Sided><br><table><tr><td>1-Sided ▶<br>2-Sided</td><td>2-Sided ▶<br>2-Sided</td></tr></table></td></tr>
<tr><td>Auto Paper/ Auto Size</td><td>Specify the default mode selected automatically when power is turned ON or the Panel Reset key pressed.<br><table><tr><td>Auto Paper</td><td>Auto Size</td><td>Manual</td></tr></table></td></tr>
<tr><td>Tray Priority</td><td>Specify the paper source selected automatically.<br><table><tr><td>1st Drawer</td></tr><tr><td>2nd Drawer</td></tr><tr><td>3rd Drawer</td></tr><tr><td>4th Drawer</td></tr><tr><td>5th Drawer</td></tr><tr><td>LCT</td></tr></table>✻ Manual Bypass Tray is not selectable.</td></tr>
<tr><td>Special Paper</td><td>Set up a drawer for special paper loading.<br><table><tr><td>Normal</td><td>Not for 2-Sided</td></tr><tr><td>Recycled</td><td>Special</td></tr></table></td></tr>
<tr><td>2 • 4 in 1, Booklet Copy Zoom</td><td>Select whether to enable (“ON”) or disable (“OFF”) recalling a default zoom ratio for 2in1, 4in1, or Booklet Creation.<br><table><tr><td>ON</td><td>OFF</td></tr></table>The default zoom ratios are as follows when “ON” has been selected.<br>< Metric Areas ><br><table><tr><td>× 0.500 4in1</td></tr><tr><td>× 0.707 2in1/Booklet</td></tr><tr><td>× 1.414 Separation</td></tr></table>< Inch Areas ><br><table><tr><td>× 0.500 4in1</td></tr><tr><td>× 0.647 2in1/Booklet</td></tr><tr><td>× 1.545 Separation</td></tr></table></td></tr>
</table>

| Touch Panel Display | Setting (The default is **Highlighted** ). |
|---|---|
| Auto Panel Reset | Specify the default exposure mode selected automatically when power is turned ON or the Panel Reset key pressed.<br>30 seconds \| **1 min** \| 2 min<br>3 min \| 5 min \| No Reset |
| Energy Save Mode | Set the time it takes the copier to enter the Energy Saver mode after a copy cycle has been completed or the last key operated. Use the 10-key Pad to set the time (15 to 240 min.).<br>(15 to 240) **(15 min)** |
| Plug-In Counter, ID key Reset | Select whether to reset (“ON”) the panel or not (“OFF”) automatically when the Access Mode key is pressed or the Key Counter is unplugged.<br>**ON** \| OFF |
| Auto Shut Off | Select whether to turn ON or OFF the Auto Shut Off function that shuts down the copier a given period of time after a copy cycle has been completed or the last key operated. Selecting “ON” means setting the time it takes the Auto Shut Off function to be activated, that can range from 15 min. to 240 min.<br>No Reset \| (15 to 240) **(60 min)**<br>✻ The option of “No Reset” becomes available on the screen if “Yes” is selected for “Disable Sleep” of Utility - Admin. Management - Administrator Set. |
| LCD Back-light Off | Set the time it takes the LCD backlight to turn OFF after a copy cycle has been completed or the last key has been operated.<br>(1 to 240) **(1 min)** |

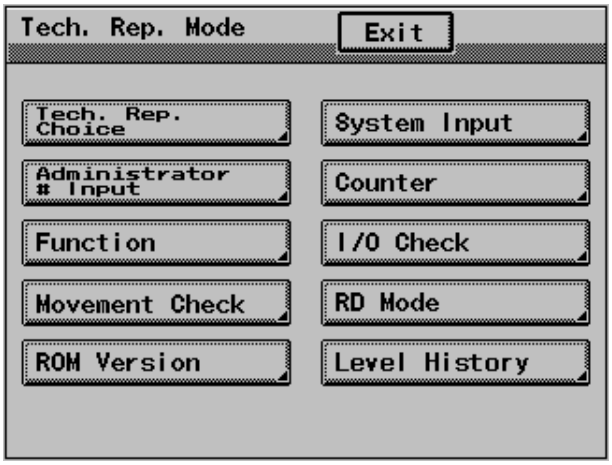
| Touch Panel Display | Setting (The default is **Highlighted** ). |
|---|---|
| 4 in 1 Copy Order | Specify the default copying order in the 4in1 mode.<br>  |
| Density Priority | Specify the default exposure mode selected automatically when power is turned ON or the panel Reset key pressed.<br><Density><br>**Auto** \| Manual<br>✻ "Photo" of "Original Image Type" cannot be selected when "Auto" is selected.<br><Original Image Type><br>**Text** \| Photo \| Text/Photo |
| Default Level (Copy) | Auto: Select the default exposure level in the Auto Exposure mode.<br>Manual: Set the default exposure level in the Manual Exposure mode.<br><Auto><br>Lighter \| **Normal** \| Darker<br><Manual><br>  <br>Lighter ... Darker<br>✻ EXP. 1 (Lighter) to EXP. 9 (Darker) |
| Print Exposure | Set the image density level for printing.<br>-2 \| -1 \| **0** \| 1 \| 2 |
| Output Priority | Select the default finishing type when the copier is equipped with a Sorter or Staple Sorter.<br>**Non-Sort** / Sort / Group<br>Staple<br>✻ Staple can be combined with either Sort or Group.<br>Hole Punch<br>✻ Hole Punch can be combined with any one of the functions. |

<table>
<tr><th>Touch Panel Display</th><th>Setting (The default is Highlighted ).</th></tr>
<tr><td>Intelligent Sorting</td><td>When the system is equipped with a finishing option and the ADF is being used, select whether to turn “ON” or “OFF” the function that automatically switches between Sort and Non-Sort according to the number of originals loaded in the ADF.
<table>
<tr><td>ON</td><td>OFF</td></tr>
</table></td></tr>
<tr><td>Output Tray</td><td>Select the output tray for each application when the system is equipped with a Job Tray or Finisher.<br><Printer><br>• Job Tray
<table>
<tr><td>1</td><td>2</td></tr>
</table>
• Finisher
<table>
<tr><td>1</td><td>2</td></tr>
</table>
<Copier>
<table>
<tr><td>1</td><td>2</td></tr>
</table>
✻ 1: 1st tray; 2: 2nd tray<br>✻ When the system is equipped with a Finisher, the option of “Copier” and the tray designation keys “1” and “2” are not displayed.</td></tr>
<tr><td>Small ID Original</td><td>Select whether to enable (“ON”) a copy cycle or not (“OFF”) when it is initiated with no original placed on the Original Glass or with an original of a small size that is not detectable by the system (smaller than A5) placed on the Original Glass.
<table>
<tr><td>ON</td><td>OFF</td></tr>
<tr><td>The copy cycle is run using the paper loaded in the default paper source.</td><td>A warning message is given and the copier inhibits the start of this copy cycle.</td></tr>
</table></td></tr>
<tr><td>Scanner Dry</td><td>Set the time-of-day to run a Scanner drying cycle.
<table>
<tr><td>Hours</td><td>Minutes</td></tr>
<tr><td>00 ~ 23</td><td>00 ~ 59</td></tr>
</table>
✻ When entering a value for Hours and Minutes and if it is a one-digit number, first enter a “0.”</td></tr>
<tr><td>Density (ADF)</td><td>Adjust the copy image density level when the Automatic Document Feeder is being used.
<table>
<tr><td>✻</td><td>  </td><td>When the standard original (text, etc.) is used.</td></tr>
<tr><td></td><td>  </td><td>To give better reproduction of a faint original.</td></tr>
</table>
✻ : Initial setting</td></tr>
</table>

# 5 TECH. REP. MODE

- This mode is used by the Tech. Rep. to set, check, adjust, and/or program various service functions.

## 5-1. Tech. Rep. Mode Menu Screen




1171S005CA

## 5-2. Tech. Rep. Mode Function Setting Procedure

<Setting Procedure>

1. Set the copier into the Tech. Rep. mode by the following method:

- With the “Meter Count” screen opened from the Utility menu screen, press the following keys in this order:

Stop Key ➡ 0 ➡ 0 ➡ Stop Key ➡ 0 ➡ 1

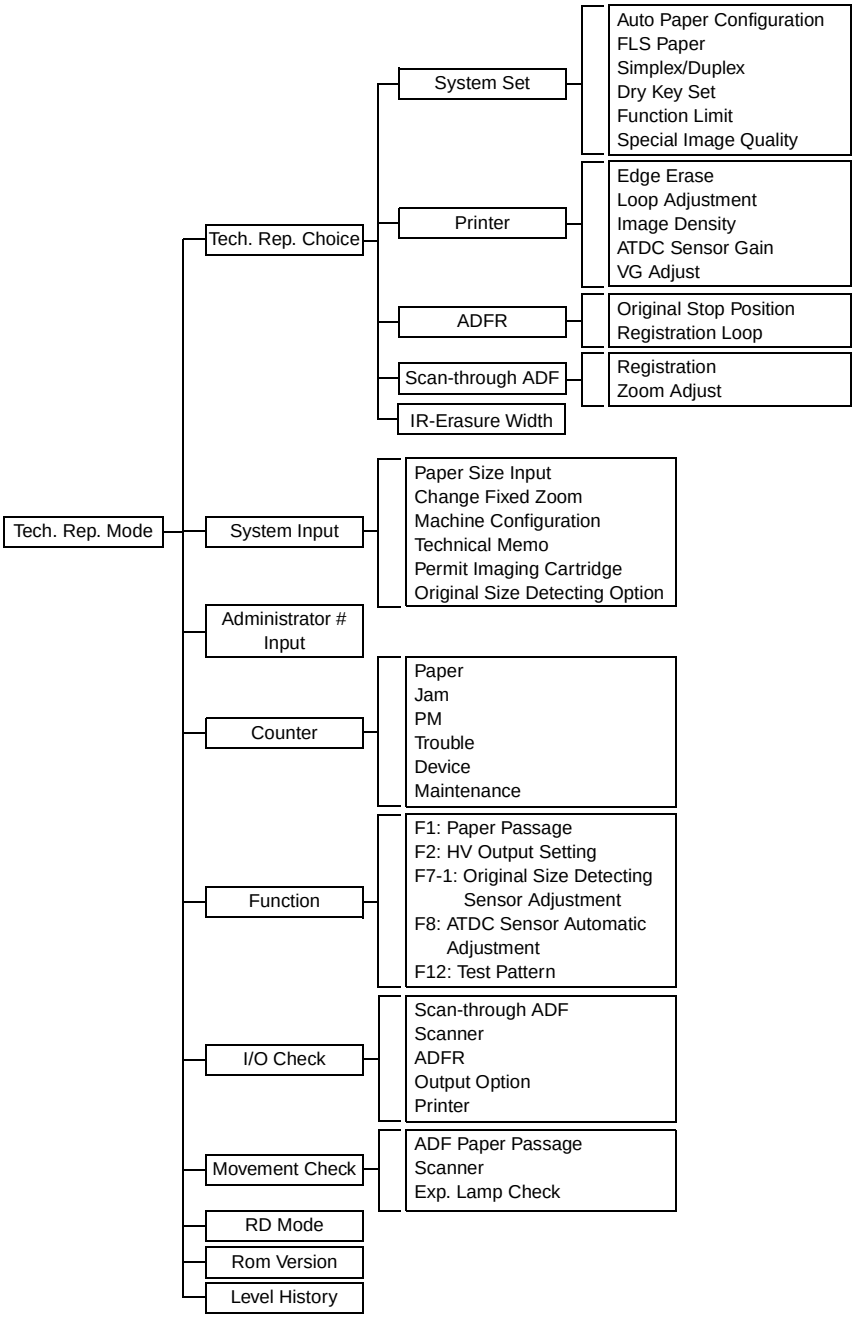
2. Select the particular Tech. Rep. mode function to be set.
3. Make the necessary settings according to the function selected.

✻ The function selected is highlighted.

<Exiting the Mode>

- Touch [Exit] on the screen to go back to the Basic screen.

## 5-3. Tech. Rep. Mode Setting Tree



## 5-4. Settings in the Tech. Rep. Mode

### (1) Tech. Rep. Choice

- This function allows the Tech. Rep. to make the various settings and adjustments.

<Function>
1. System Set
2. Printer
3. ADFR
4. Scan-through ADF

<Setting Procedure>
1. Touch [Tech. Rep. Choice] to open a screen to Tech. Rep. Choice.
2. Touch the desired major category key.
3. Touch the desired sub-category key.

Tech. Rep. Mode ▶ Tech. Rep. Choice

<System Set>

<table>
<tr><th>Touch Panel Display</th><th>Setting (The default is Highlighted).</th></tr>
<tr><td>Auto Paper Configuration</td><td><Metric Areas><br>Select either “Inch/Metric” or “Metric” for rounding off the original size detected.
<table>
<tr><td>Inch / Metric</td><td>The measurement is rounded to the nearest standard inch or metric size.</td></tr>
<tr><td>Metric</td><td>The measurement is rounded to the nearest standard metric size.</td></tr>
</table>
<Inch Areas><br>Select either “Inch/Metric” or “Inch” for rounding off the original size detected.
<table>
<tr><td>Inch / Metric</td><td>The measurement is rounded to the nearest standard inch or metric size.</td></tr>
<tr><td>Inch</td><td>The measurement is rounded to the nearest standard inch size.</td></tr>
</table></td></tr>
<tr><td>FLS Paper</td><td>Set the size for FLS.
<table>
<tr><td>F: 330 mm<br>C: 203 mm</td><td>F: 330mm<br>C: 210mm</td><td>F: 330 mm<br>C: 216 mm</td><td>F: 330 mm<br>C: 220 mm</td></tr>
</table></td></tr>
<tr><td>Simplex/Duplex</td><td>Select whether or not to enable the setting of 1-Sided ▶ 1-Sided under Original ▶ Copy Default available from User’s Choice.<br>✻ If “Simplex & Duplex” is selected, 1-Sided ▶ 1-Sided becomes available as an option.
<table>
<tr><td>Display</td><td>Simplex & Duplex</td><td>Duplex Only</td></tr>
<tr><td>Description</td><td>Does not limit the options for Original ▶ Copy Default to 2-sided copying only.</td><td>Limits the options for Original ▶ Copy Default to 2-sided copying only.</td></tr>
</table></td></tr>
</table>

Tech. Rep. Mode ▶ Tech. Rep. Choice

| Touch Panel Display | Setting (The default is **Highlighted** ). |
|---|---|
| Dry Key Set | Select whether to display the Dry key for "User Management" of Utility. If the key is to be displayed, select whether to dry only the Scanner or both Scanner and Drum.<br>Scanner \| Scanner & Drum \| **Disable** |
| Function Limit | Select whether to limit ("ON") the functions to be set on the control panel or not ("OFF").<br>ON: Enables the functions other than Orig. ▶ Copy and Auxiliary.<br>**OFF**: Enables all functions (no Limit). |
| Special Image Quality | Select whether to enable the selection of Special Image Quality for "Density Priority" of User's Choice (applicable on a case-by-case basis).<br>✻ Touching the "✻" key on the System Set menu selects or cancels this function.<br>✻ Key high-lighted: The Special Image Quality key is displayed.<br>✻ Key not high-lighted: The Special Image Quality key is not displayed. |

<Printer>

| Touch Panel Display | Setting (The default is **Highlighted** ). |
|---|---|
| Edge Erase | Set the erase width on the leading, trailing, right, and left edge of the image.<br>Leading / Trailing / Right/Left: 0mm..... **4** ..... 5mm<br>Smaller ◄——► Greater |
| Loop Adjustment | Set the loop length to be formed before the Synchronizing Rollers.<br>1st Drawer / Other Drawers / Duplex & Manual: -5mm..... **0** ..... +5mm<br>Smaller ◄——► Greater |

Tech. Rep. Mode ▶ Tech. Rep. Choice

| Touch Panel Display | Setting (The default is **Highlighted** ). |
|---|---|
| Image Density | Set the image density for the printer.<br>✻ The value set for this function becomes the central value of “Print Exposure” of User’s Choice.<br>-2 ..... **0** ..... +4<br>Lighter ◄——► Darker |
| ATDC Sensor Gain | Current: Shows the current ATDC control voltage.<br>Set: Set the ATDC control voltage.<br>✻ If the “Set” value is to be changed, be sure to record the “Current” value.<br>✻ The ATDC Sensor Gain value can be converted to a voltage value using the following equation.<br>ATDC Sensor Gain = 5.1 × 2.2 × [setting value] ÷ 256 (V)<br>123 ..... **155** ..... 186<br>T/C Greater ◄——► T/C Smaller |
| VG Adjust | Set VG when a fog or void occurs in the image.<br>-2 ..... **0** ..... +2<br>Lighter ◄——► Darker |

<ADFR>

| Touch Panel Display | Setting (The default is **Highlighted** ). |
|---|---|
| Original Stop Position | Set the document stop position in each of the ADFR modes.<br>1-Sided Set / 2-Sided Set / Single Feed Set: -7 ..... **0** ..... +7<br>Original Width Scale end ◄——► Original Glass end<br>✻ The minimum setting value is -6 only for 2-Sided Set. |
| Registration Loop | Set the loop length to be formed in the original before the Registration Roller of ADFR.<br>-5mm ..... **0** ..... +5mm<br>Smaller ◄——► Greater |

Tech. Rep. Mode ▶ Tech. Rep. Choice

<Scan-through ADF>

| Touch Panel Display | Setting (The default is **Highlighted** ). |
|---|---|
| Registration | Adjust registration in the main and sub scanning directions of the ADF.<br>Main scaning (CD)<br>-72 dot.....**0**..... +72 dot<br>Smaller ◄——► Greater<br>Sub scaning (FD)<br>-127 dot.....**0**..... +127 dot<br>Smaller ◄——► Greater |
| Zoom Adjust | Adjust the scanning zoom ratio in the main and sub scanning directions of the ADF.<br>0.990.....**1.000**..... 1.010<br>Smaller ◄——► Greater |

<IR-Erasure Width>

| Touch Panel Display | Setting (The default is **Highlighted** ). |
|---|---|
| IR-Erasure Width | Set the forced erasure width along the four edges of the paper to erase shadows which are otherwise produced by the Original Scales.<br>**0mm**.....3mm<br>Smaller ◄——► Greater |

**(2) System Input**

- This function allows the Tech. Rep. to change the fixed zoom ratios, set the paper size, define the marketing area, configure for the Key Counter, and input the telephone number.

<Setting Procedure>
1. Touch [System Input] to open the System Input menu screen.
2. Touch the desired subfunction key.

Tech. Rep. Mode ▶ System Input

| Touch Panel Display | Operation |
|---|---|
| Paper Size Input | Set the size of the paper used in each paper source.<br>✻ This function cannot be used for the LCC as its paper is set with its internal DIP switch.<br><Procedure><br>1. Touch the key of the paper source for which the paper size setting is to be changed to show the Paper Size Input screen.<br>2. Touch the desired paper size key.<br>✻ If the 10-key Pad has been selected, enter the FD and CD size of the paper from the 10-Key Pad.<br>3. Touch [END] to validate the paper size setting. |
| Change Fixed Zoom | Change a fixed zoom ratio to a desired value in the range between ×0.250 and ×4.000.<br><Procedure><br>1. Touch the key of the fixed zoom ratio to be changed.<br>2. Press the Clear key to clear the setting and enter the new ratio from the 10-Key Pad.<br>3. Touch [Input] to validate the new setting. |
| Machine Configuration | Displays the machine configuration status. |
| Technical Memo | Enter the serial number and other data. |
| Permit Imaging Cartridge | Select whether to permit the use of an illegal Imaging Cartridge installed. The use is enabled when [Enter] is touched after “Yes” has been selected.<br>✻ It is not possible to disable the use of an Imaging Cartridge once permitted.<br>Yes / **No** |
| Original Size Detecting Option | Set whether the optional Original Size Detecting Sensor is available or not.<br>ON / **OFF** |

**(3) Administrator # Input**

- This function allows the Tech. Rep. to set the administrator number that is used to open the “Admin. Management” screen of Utility.

<Setting Procedure>
1. Touch [Administrator # Input] to open the Administrator # Input menu screen.
2. Blank out the numeric data with the Clear key and enter the desired number from the 10-Key Pad.
3. Touch [Enter] to validate the entry of the number.

Tech. Rep. Mode ▶ Administrator # Input

| Touch Panel Display | Operation |
|---|---|
| Administrator # Input | Set the administrator number used to open the “Admin. Management” screen of Utility from the 10-Key Pad.<br>(1 to 8 digits: 0 to 99999999) |

**(4) Counter**

- This function maintains the counts of the various counters, thus aiding the Tech. Rep. in performing service jobs.

<Setting Procedure>
1. Touch [Counter] to open the Counter menu screen.
2. Touch [Check] and then the desired counter to open the detailed counter screen.
3. To clear a count, touch [Counter Reset], the key of the counter to be cleared, and [END].

✻ Two or more counters can be selected.

Tech. Rep. Mode ▶ Counter

<table>
<tr><th>Touch Panel Display</th><th>Operation</th></tr>
<tr><td>Paper</td><td>Shows the number of sheets of paper used by the size and type. Each counter may be reset to 0 independently of the others:<br><Paper Counter 1/2><br><table><tr><th>Display</th><th>Description</th></tr><tr><td>A3</td><td>A3L</td></tr><tr><td>B4</td><td>B4L</td></tr><tr><td>A4</td><td>A4L/C</td></tr><tr><td>B5</td><td>B5L/C</td></tr><tr><td>A5</td><td>A5L/C</td></tr><tr><td>B6</td><td>B6L</td></tr><tr><td>A6</td><td>A6L</td></tr><tr><td>11 × 17</td><td>11” × 17”L</td></tr><tr><td>11 × 14</td><td>11” × 14”</td></tr><tr><td>Letter</td><td>Letter L/C</td></tr><tr><td>Legal</td><td>Legal L/C</td></tr><tr><td>5-1/2 × 8-1/2</td><td>5-1/2” × 8-1/2” L/C</td></tr></table><br><Paper Counter 2/2><br><table><tr><th>Display</th><th>Description</th></tr><tr><td>FLS.</td><td>FLS.</td></tr><tr><td>Normal</td><td>Normal</td></tr><tr><td>Recycled</td><td>Recycled</td></tr><tr><td>Special</td><td>Special</td></tr><tr><td>Not for 2-Sided</td><td>Not for 2-Sided</td></tr></table><br><Clearing a Count><br>Touch the item key whose count is to be cleared and press the Clear key. If a count is accidentally cleared, pressing the Interrupt key will undo the clear operation.</td></tr>
</table>

Tech. Rep. Mode ▶ Counter

<table>
<tr><th>Touch Panel Display</th><th>Operation</th></tr>
<tr><td>Jam</td><td>Shows the number of misfeeds that have occurred in different parts of the system, together with rates of occurrence (MCBJ, MDBJ). Each counter may be reset to zero independently of the others:
<Jam Counter 1/5>
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>MCBJ System</td><td>Average no. of copies made for each paper misfeed:<br>MCBJ Total Counter ÷ Jam Counter (including misfeeds in Finisher)</td></tr>
<tr><td>MCBJ Machine Only</td><td>Average no. of copies made for each paper misfeed:<br>MCBJ Total Counter ÷ Jam Counter (excluding misfeeds in Finisher)</td></tr>
<tr><td>1st Drawer</td><td>No. of misfeeds that occurred at the 1st Drawer of the copier</td></tr>
<tr><td>2nd Drawer</td><td>No. of misfeeds that occurred at the 2nd Drawer of the copier</td></tr>
<tr><td>3rd Drawer</td><td>No. of misfeeds that occurred at the 3rd Drawer of the copier</td></tr>
<tr><td>4th Drawer</td><td>No. of misfeeds that occurred at the 4th Drawer of the copier</td></tr>
<tr><td>5th Drawer</td><td>No. of misfeeds that occurred at the 5th Drawer of the copier</td></tr>
</table>
<Jam Counter 2/5>
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>Manual Feed</td><td>No. of misfeeds that occurred at the Manual Bypass Tray</td></tr>
<tr><td>Vertical Transport</td><td>No. of misfeeds that occurred at the paper take-up/transport section of the copier</td></tr>
<tr><td>Separator</td><td>No. of misfeeds that occurred at the paper separator section of the copier</td></tr>
<tr><td>Fusing</td><td>No. of misfeeds that occurred at the Fusing Unit of the copier</td></tr>
<tr><td>Duplex Entrance</td><td>No. of misfeeds that occurred at the turnover/storage section of the copier</td></tr>
<tr><td>Duplex Feed</td><td>No. of misfeeds that occurred at the paper take-up section of the Duplex</td></tr>
<tr><td>LCC Feed</td><td>No. of misfeeds that occurred at the paper take-up section of the LCC</td></tr>
</table>
<Jam Counter 3/5>
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>LCC Transport</td><td>No. of misfeeds that occurred in the LCC transport section</td></tr>
<tr><td>Shift/2Bin Tray Transport</td><td>No. of misfeeds that occurred in the Shift/Job Tray transport section</td></tr>
<tr><td>Shift/2Bin Tray Exit</td><td>No. of misfeeds that occurred in the Shift/Job Tray exit section</td></tr>
<tr><td>Finisher Horizontal Transport</td><td>No. of misfeeds that occurred in the Finisher horizontal transport section</td></tr>
<tr><td>Finisher Transport</td><td>No. of misfeeds that occurred in the Finisher transport section</td></tr>
<tr><td>Finisher Exit</td><td>No. of misfeeds that occurred in the Finisher exit section</td></tr>
<tr><td>Finisher Staple</td><td>No. of Finisher staple misfeeds that occurred</td></tr>
</table>
✻ 2Bin Tray = Job Tray</td></tr>
</table>

Tech. Rep. Mode ▶ Counter

<table>
<tr><th>Touch Panel Display</th><th>Operation</th></tr>
<tr><td>Jam</td><td>
<Jam Counter 4/5>
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>Finisher Set Transport</td><td>No. of misfeeds that occurred in the Finisher Tray</td></tr>
<tr><td>MDBJ</td><td>Average no. of document transport sequences for each document misfeed:<br>ADFR Document Passage Counter ÷ ADFR Jam Counter</td></tr>
<tr><td>ADF (Scan-through ADF) Feed</td><td>No. of misfeeds that occurred at the paper take-up section of the ADF (Scan-through ADF)</td></tr>
<tr><td>ADF (Scan-through ADF) Transport</td><td>No. of misfeeds that occurred at the document transport section of the ADF (Scan-through ADF)</td></tr>
<tr><td>ADFR Reverse</td><td>No. of misfeeds that occurred at the document turnover and exit sections of the ADFR</td></tr>
<tr><td>SADF</td><td>No. of misfeeds that occurred at the SADF</td></tr>
</table>
<Jam Counter 5/5>
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>Printer</td><td>No. of misfeeds that occurred due to illegal designation of FCU2</td></tr>
<tr><td>Engine</td><td>No. of misfeeds that occurred due to communication error with engine (VD fault)</td></tr>
</table>
<Clearing a Count><br>Touch the item key whose count is to be cleared and press the Clear key. If a count is accidentally cleared, pressing the Interrupt key will undo the clear operation.
</td></tr>
<tr><td>PM</td><td>
Shows the frequency of use of each of the PM parts. Each counter may be reset to 0 independently of the others:
<PM Counter 1/3>
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>I/C Life</td><td>No. of revolutions of I/C</td></tr>
<tr><td>Fusing Unit</td><td>No. of times a sheet of paper is fed out</td></tr>
<tr><td>1st Drawer</td><td>No. of sheets of paper fed from the 1st Drawer</td></tr>
<tr><td>2nd Drawer</td><td>No. of sheets of paper fed from the 2nd Drawer</td></tr>
<tr><td>3rd Drawer</td><td>No. of sheets of paper fed from the 3rd Drawer</td></tr>
<tr><td>4th Drawer</td><td>No. of sheets of paper fed from the 4th Drawer</td></tr>
<tr><td>5th Drawer</td><td>No. of sheets of paper fed from the 5th Drawer</td></tr>
</table>
<PM Counter 2/3>
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>LCC Parts 1</td><td>No. of sheets of paper fed from the LCC (for 200k)</td></tr>
<tr><td>LCC Parts 2</td><td>No. of sheets of paper fed from the LCC (for 300k)</td></tr>
<tr><td>Other PM Parts 1</td><td>No. of print cycles run (for 100k)</td></tr>
<tr><td>Other PM Parts 2</td><td>No. of print cycles run (for 150k)</td></tr>
<tr><td>Other PM Parts 3</td><td>No. of print cycles run (for 60k/120k)</td></tr>
<tr><td>1-Sided</td><td>No. of times a 1-sided original is fed through</td></tr>
<tr><td>2-Sided</td><td>No. of times a 2-sided original is fed through</td></tr>
</table>
</td></tr>
</table>

Tech. Rep. Mode ▶ Counter

<table>
<tr><th>Touch Panel Display</th><th>Operation</th></tr>
<tr><td>PM</td><td>
<PM Counter 3/3>
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>SADF<br>IR 1<br>IR 2<br>2 Bin Tray<br>Toner Pages</td><td>No. of single feeds<br>No. of scan motions (for 60k)<br>No. of scan motions (120k)<br>No. of cycles of feeding paper out into Job Tray<br>No. of pages equivalent to the no. of black dots on A4 original with B/W 5%</td></tr>
</table>
✻ 2Bin Tray = Job Tray<br>
<Clearing a Count><br>
Touch the item key whose count is to be cleared and press the Clear key. If a count is accidentally cleared, pressing the Interrupt key will undo the clear operation.<br>
✻ I/C Life cannot be cleared.
</td></tr>
<tr><td>Trouble</td><td>
Shows the number of malfunctions that have occurred in different parts of the system. Each counter may be reset to 0 independently of the others:<br>
<Trouble Counter 1/5>
<table>
<tr><th>Malfunction Code</th><th>Location</th><th>Malfunction Code</th><th>Location</th></tr>
<tr><td>C0000<br>C0010<br>C0045<br>C004C</td><td>Main Motor<br>I/C Motor<br>Cooling Fan<br>Ventilation Fan</td><td>C004E<br>C0070<br>C0500<br>C0510</td><td>Cooling Fan (Power Supply)<br>Toner Bottle Motor<br>Fusing Warming-up<br>Fuser Low Temperature</td></tr>
</table>
<Trouble Counter 2/5>
<table>
<tr><th>Malfunction Code</th><th>Location</th><th>Malfunction Code</th><th>Location</th></tr>
<tr><td>C0520<br>C0650<br>C0651<br>C0990</td><td>Fuser High Temperature<br>Home Sensor<br>Left Sensor<br>LCC Transport Motor</td><td>C0991<br>C0995<br>C0999<br>C099D</td><td>LCC Lift 1 Limit<br>LCC Lift Motor<br>LCC Lift 2 Limit<br>LCC Communication</td></tr>
</table>
<Trouble Counter 3/5>
<table>
<tr><th>Malfunction Code</th><th>Location</th><th>Malfunction Code</th><th>Location</th></tr>
<tr><td>C0B00<br>C0B0F<br>C0B30<br>C0B38</td><td>Transport Drive Motor<br>Horiz. Trans. Route Switch<br>Paper Aligning Bar Unit<br>Paper Standard Board Unit</td><td>C0B4D<br>C0B4E<br>C0B50<br>C0B80</td><td>Assist Tray Unit<br>Transaction Tray Unit<br>Staple Unit<br>Shift Tray Shift</td></tr>
</table>
<Trouble Counter 4/5>
<table>
<tr><th>Malfunction Code</th><th>Location</th><th>Malfunction Code</th><th>Location</th></tr>
<tr><td>C0BA0<br>C0F32<br>C0F33<br>C1038</td><td>Elevate Motor<br>ATDC Sensor<br>ATDC Adjust<br>Engine Connection</td><td>C1300<br>C1330<br>C133A</td><td>Polygon Motor<br>Communication Error (VSYNC)<br>Communication Error (G/A)</td></tr>
</table>
</td></tr>
</table>

Tech. Rep. Mode ▶ Counter

<table>
<tr><th>Touch Panel Display</th><th>Operation</th></tr>
<tr><td>Trouble</td><td>
<Trouble Counter 5/5>
<table>
<tr><th>Malfunction Code</th><th>Location</th><th>Malfunction Code</th><th>Location</th></tr>
<tr><td>C133B<br>C13C0<br>C13D0</td><td>Communication Error (Option)<br>I/C Initial Error<br>EEPROM</td><td>C13F0<br>C18XX</td><td>HSYNC (SOS)<br>Printer Controller Error</td></tr>
</table>
<Clearing a Count><br>
Touch the item key whose count is to be cleared and press the Clear key. If a count is accidentally cleared, pressing the Interrupt key will undo the clear operation.
</td></tr>
<tr><td>Device</td><td>
Shows the numbers of prints for different applications. It also allows the Tech. Rep. to clear each counter.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>Copier</td><td>No. of prints made by copier</td></tr>
<tr><td>Printer</td><td>No. of prints made by printer</td></tr>
<tr><td>Report Print</td><td>No. of report prints made</td></tr>
<tr><td>Fax Print</td><td>No. of fax prints made</td></tr>
<tr><td>Fax Transmission</td><td>No. of prints made for fax transmission</td></tr>
</table>
<Clearing a Count><br>
Select the counter to be cleared with the item key and press the Clear key. If the count is accidentally cleared, pressing the Interrupt key will undo the clear operation.
</td></tr>
<tr><td>Maintenance</td><td>
• This function allows the Tech. Rep. to set the number of copies to be made before the Maintenance Call reminder is given. (1k ~ 9999k)<br>
• It shows the current count value and the above setting. Each counter may be reset to 0 independently of the others:<br>
• When the count reaches the preset value, the icon “△” appears in the Status Display.<br>
✻ When “Call Indicated” is selected for “Maintenance Call” available from Tech. Rep. Choice.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>Maintenance (Set)</td><td>The Maintenance Call reminder is given when the count reaches the preset value.</td></tr>
<tr><td>Maintenance (Count)</td><td>Counts one for each copy made.</td></tr>
</table>
<Setting a Count><br>
1. Touch [Maintenance (Set)] and then press the Clear key to clear the count. If the count is accidentally cleared, pressing the interrupt key will undo the clear operation.<br>
2. Enter the desired value from the 10-Key Pad.<br><br>
<Clearing a Count><br>
Touch [Maintenance (Count)] and then press the Clear key to clear the count. If the count is accidentally cleared, pressing the interrupt key will undo the clear operation.
</td></tr>
</table>

**(5) Function**

- This function allows the Tech. Rep. to run the various function tests and make adjustments.

<Setting Procedure>
1. Touch [Function] to open the Function menu screen.
2. Select the particular function to be run.

Tech. Rep. Mode ▶ Function

| Touch Panel Display | Operation |
|---|---|
| F1 | <Paper Passage><br>A paper passage test is carried out after the copier has completed warming up.<br><Procedure><br>1. Select the paper source key. (Touch [Duplex] to check for paper passage from the Duplex Unit.)<br>✻ If the paper source is not loaded with paper, an Add Paper mark appears at that source.<br>2. Press the Start key to start the test cycle. The test runs until the paper source runs out of paper.<br>3. If the Stop key is pressed, the copier feeds the current sheet of paper out before halting. (Another press of the Start key will resume the test cycle.) |
| F2 | <HV Output Setting><br>Set the output of each HV.<br>✻ This function is only for factory setting and should never be used in the field. |
| F7-1 | <Original Size Detecting Sensor Adjustment><br>Automatically adjusts the Original Size Detecting Sensors.<br><Procedure><br>1. Stack five sheets of A3 or 11" × 17" paper on the Original Glass and lower the Original Cover.<br>2. Press the Start key to let the system start the adjustment sequence.<br>✻ The system automatically stops as soon as the adjustment sequence is completed. It can nonetheless be halted in mid-sequence with the Stop key, which, however, results in incorrect size detection as the adjustment sequence is incomplete. |
| F8 | <ATDC Sensor Automatic Adjustment><br>Automatically makes the ATDC Sensor adjustment.<br><Procedure><br>Press the Start key to let the system start the adjustment sequence.<br>✻ The voltage automatically adjusted by this function is displayed for ATDC Sensor Gain of the Level History data. |

Tech. Rep. Mode ▶ Function

| Touch Panel Display | Operation |
|---|---|
| F12 | <Test Pattern><br>Outputs a test pattern.<br>✻ If 2-sided is specified, the system outputs a test pattern in the 2-sided mode.<br><Procedure><br>1. Touch the desired paper source key. (Touch [Duplex] for test pattern output on paper fed from the Duplex Unit.)<br>✻ If the paper source is not loaded with paper, an Add Paper mark appears at that source.<br>2. Press the Start key to start the output sequence. (It continues until the paper source runs out of paper.)<br>3. Press the Stop key to halt the sequence. |

**(6) I/O Check**

- This function displays the details of inputs to each sensor.

<Setting Procedure>
1. Touch [I/O Check] to open the I/O Check menu screen.
2. Touch the desired subfunction key.

Tech. Rep. Mode ▶ I/O Check

| Touch Panel Display | Operation |
|---|---|
| Scan-through ADF | |
| IR | ***NOTE***<br>• *For details, see TROUBLESHOOTING.* |
| ADFR | |
| Output Option | |
| Printer | |

**(7) Movement Check**

- This function runs a specified mechanism to check for operation.

<Setting Procedure>
1. Touch [Movement Check] to open the Movement Check menu screen.
2. Touch the desired subfunction.

Tech. Rep. Mode ▶ Movement Check

| Touch Panel Display | Operation |
|---|---|
| ADF Paper Passage | Feeds paper through the ADF in the specified mode to check for correct operation.<br>1-sided No Detect \| 1-sided Mixed Orig \| 2-sided<br>SADF<br><Procedure><br>1. Select ADF Paper Passage.<br>2. Touch the desired mode key.<br>3. Load originals in the ADF.<br>4. Press the Start key to let the ADF start feeding originals.<br>✻ Pressing of the Start key temporarily stops the ADF. (Another press will let the ADF resume the sequence.)<br>✻ The sequence is completed when there is no more originals in the ADF; however, it is possible to halt the sequence in mid-operation by pressing the Stop key. |
| Scanner | • Drives the CCD.<br>• Turns ON the Exposure Lamp.<br>• Moves the Scanner according to the set value. |
| Exp. Lamp Check | Checks for the intensity of the Exposure Lamp light. |

**(8) RD Mode (SMART)**

✻ "SMART" is displayed for the inch areas.

Tech. Rep. Mode ▶ RD Mode

| Touch Panel Display | Setting |
|---|---|
| RD Mode | For making the initial settings of the copier for the Data Terminal. |
| ID Code | Enter a 7-digit ID code (0000001 to 9999999) from the 10-Key Pad to enable making the following settings. When the ID code is entered and transmitted after the initial settings have been made, it executes the transmission of MAINT. START to the Center.<br>✻ 0000000 is invalid. |
| Maintenance | Used to make the initial settings and various transmissions. |
| DT Setting | Enter the following data. |
| CT-ID (Password) | Using the 10-Key Pad, enter the 4-digit ID number (0001 to 9999) of the Center which has been programmed in the Center personal computer.<br>✻ 0000 is invalid. |
| DT-ID | Using the 10-Key Pad, enter the 6-digit ID number (000001 to 999999) of the Data Terminal.<br>✻ 000000 is invalid. |
| TEL No. | Enter the 19-or-less-digit phone number of the modem connected to the Center personal computer from the 10-Key Pad.<br>✻ In addition to the 10-Key Pad and Clear key, use the following keys to enter the phone number.<br>Interrupt key: For a pause (3 sec. or more), "-"<br>Pause key: For a pause (3 sec. or more), "-"<br>P key: For a "pulse" dialing, "P"<br>T key: For a "tone" dialing, "T"<br>W key: For a wait code (waiting for a signal from the other party), "W"<br>✻ key: For an ISDN subaddress, "✻"<br># key: For switching from the extension line to outside line, or vice versa, "#" |
| Initial Transmission | Used to perform the initial transmission from the copier to the Center to check for correct communication when the Data Terminal has been set up. |
| Counter Clear | Used to clear the count of the spare counter set by the Center.<br><Procedure><br>1. Touch [Counter Clear] to open the Counter Clear screen.<br>2. Touch the number assigned to the counter to be cleared. |
| Call Completion | Used by the Tech. Rep. to notify the Center that his/her service job for the copier has been completed. |

Tech. Rep. Mode ▶ RD Mode

| Touch Panel Display | Setting (The default is **Highlighted** ). |
|---|---|
| RD Mode | ——— |
| RAM Clear | Reinitializes the Data Terminal.<br>YES / **NO** |
| Common DT | Set the following functions. |
| Dial Mode | Select the type of telephone line of the user.<br>**Tone** / Pulse |
| Auto Receive | Choose “Yes” or “No” for the auto reception function.<br>**YES** / NO<br>✻ Select “Yes” if the line is dedicated to the Data Terminal. |
| Result Code | Enter the result code for connection to the modem when the line is connected. (0 to 999) |

**(9) ROM Version**

Tech. Rep. Mode ▶ ROM Version

<table>
<tr><th>Touch Panel Display</th><th>Operation</th></tr>
<tr><td>ROM Version</td><td>Displays the current ROM version information.<br>✻ No version information is displayed for a machine that is not connected to the system.<br><Procedure><br>1. Touch [ROM Version] to open the ROM Version screen.<br>2. The screen shows the ROM version information of various machines configured in the system.
<table>
<tr><th colspan="2">Display</th><th>Description</th></tr>
<tr><td>MSC</td><td>—</td><td>MFB Board</td></tr>
<tr><td>Message</td><td>IC4</td><td>MFB Board</td></tr>
<tr><td>Printer</td><td>IC1</td><td>Master Board</td></tr>
<tr><td>ADFR</td><td>IC3</td><td>ADFR Board</td></tr>
<tr><td>LCC</td><td>IC7</td><td>LCC Board</td></tr>
<tr><td>Finisher</td><td>IC3</td><td>Finisher/Job Tray Board</td></tr>
<tr><td>IIF</td><td>—</td><td>IIF2 Board</td></tr>
</table>
</td></tr>
</table>

**(10) Level History**

- This function is used to show the various level histories which are changed according to the operating conditions of the copier and user requirements.

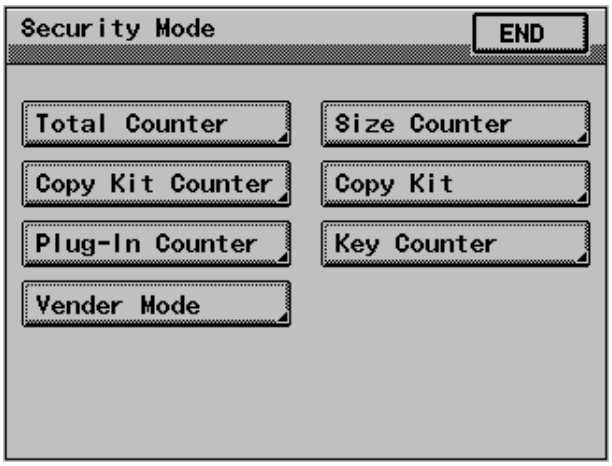
Tech. Rep. Mode ▶ Level History

<table>
<tr><th>Touch Panel Display</th><th>Setting</th></tr>
<tr><td>Level History</td><td>
<ATDC Set><br>
Shows the voltage set by ATDC Sensor Automatic Adjustment (F8).<br>
✻ The Level History data is updated when the ATDC Sensor Automatic Adjustment (F8) is completed.
<table>
<tr><th>Variable Range</th><th>Increments</th></tr>
<tr><td>123 to 186 (steps)</td><td>1 Step</td></tr>
</table>
<ATDC Current><br>
Shows the current, approximate ATDC Sensor T/C setting in percentage.
<table>
<tr><th>Variable Range</th><th>Increments</th></tr>
<tr><td>3.0 to 19.0 (%)</td><td>0.5%</td></tr>
</table>
<Vg Current><br>
Displays the grid voltage as corrected through image stabilization and related functions.
<table>
<tr><th>Variable Range</th><th>Increments</th></tr>
<tr><td>-534 to -748 (V)</td><td>-</td></tr>
</table>
<Vb Current><br>
Displays the developing bias voltage as corrected through image stabilization and related function.
<table>
<tr><th>Variable Range</th><th>Increments</th></tr>
<tr><td>-409 to -623 (V)</td><td>-</td></tr>
</table>
</td></tr>
</table>

# 6 SECURITY MODE

- This function allows the Tech. Rep. to make various settings.

## 6-1. Security Mode Menu Screen




1167S011CA

## 6-2. Security Mode Function Setting Procedure

<Setting Procedure>

1. Set the copier into the Tech. Rep. mode by one of the following methods:
   A. With the copier turned ON, press the Tech. Rep. Setting Switch.
   B. With the Meter Count screen opened from Utility, press the following keys in this order:

   [Stop Key] ➡ [0] ➡ [0] ➡ [Stop Key] ➡ [0] ➡ [1]

2. Enter the Security mode by pressing the following keys in this order:

   [Stop Key] ➡ [9]

3. Select the particular Security mode to be set.
4. Make the necessary settings by following the instructions given sequentially on the screen.

✻ The Function selected is highlighted.

<Exiting the Mode>

Perform any one of the following steps to go back to the Basic screen.

- Press the Panel Reset key and Touch [Exit] on the Tech. Rep. Mode screen.
- Touch [END] on the Security Mode screen. Then touch [Exit] on the Tech. Rep. Mode screen.

## 6-3. Settings in the Security Mode

Tech. Rep. Mode ▶ Security Mode

<table>
<tr><th>Touch Panel Display</th><th>Setting (The default is Highlighted ).</th></tr>
<tr><td>Total Counter</td><td>Select the conditions by which the Total Counter count is increased.
<table>
<tr><td>Mode 1</td><td>1 count per 1 copy cycle (normal mode)</td></tr>
<tr><td>Mode 2</td><td>Multiple count-up according to paper size and 1/2-sided copying</td></tr>
<tr><td>Mode 3</td><td>Multiple count-up according to paper size and 1/2-sided copying</td></tr>
</table>
✻ See the Count-up Table for details.</td></tr>
<tr><td>Size Counter</td><td>Select the size of the paper to be counted by the Size Counter.
<table>
<tr><td>No Count</td><td>A3<br>11×17</td><td>A3 / B4<br>11×17<br>Legal</td><td>A3 /11×17<br>B4 /11×14<br>FLS/Legal</td><td>A6</td></tr>
</table>
✻ See the Count-up Table for details.</td></tr>
<tr><td>Copy Kit</td><td>• Allows for setting the desired threshold before the Maintenance Call reminder is given.<br>• Displays both the current value and the above setting value. Each counter can also be reset independently of the other.<br>• When the current value (Current) becomes the setting value (Set), the icon “⚠” appears in the Status Display if “Mode 2” is selected for “Copy Kit Counter” and the Maintenance Call reminder (M4) is displayed if “Mode 3” is selected for “Copy Kit Counter.”<br>✻ Whether the initiation of a new copy cycle is inhibited or not when the current value exceeds the setting value depends on the setting made with Copy Kit Counter.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>Set</td><td>Gives a Maintenance Call when Current value reaches Set value.</td></tr>
<tr><td>Current</td><td>Counts up for each copy made.</td></tr>
</table>
<Counter Setting Procedure><br>1. Touch [Set] and press the Clear key to clear the current setting. If the setting is accidentally cleared, pressing of the Interrupt key will undo the clear operation.<br>2. Enter the desired value from the 10-Key Pad.<br><Clearing the Count><br>Touch [Current] and press the Clear key to clear the count. If the count is accidentally cleared, pressing of the Interrupt key will undo the clear operation.</td></tr>
</table>

Tech. Rep. Mode ▶ Security Mode

| Touch Panel Display | Setting (The default is **Highlighted** ). |
|---|---|
| Copy Kit Counter | Select whether to set the count or not for the Copy Kit Counter and select whether to inhibit the initiation of a new copy cycle or not when the Current value reaches Set value.<br>**Mode 1** : No counting<br>Mode 2 : Counted and permits copying even when the Set value is reached.<br>Mode 3 : Counted and inhibits copying when the Set value is reached. |
| Plug-In Counter | Select the condition by which the Key Counter count is increased.<br>**Copies Made** / Copy Cycles<br>✻ See the Count-up Table for details. |
| Key Counter | Set whether a Key Counter is plugged in (“ON”) or not (“OFF”).<br>ON / **OFF** |
| Vender Mode | Select the medium to be used when the Key Counter or Vender is used.<br>✻ This function is not valid if “OFF” is selected for “Key Counter.”<br>**OFF** / Coin / Card |

Tech. Rep. Mode ▶ Security Mode

<Count-up Table>

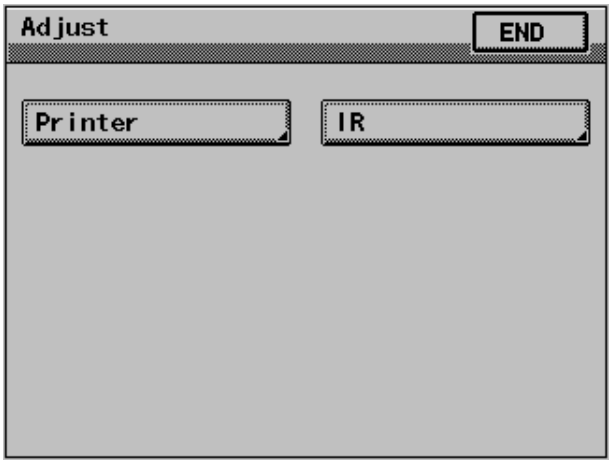
| Copying | | 1-Sided | | | | | | 2-Sided | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Size | | Size other than those set | | | Set size | | | Size other than those set | | | Set size | | |
| Total | | Mode | | | Mode | | | Mode | | | Mode | | |
| | | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 |
| Total (mechanical, electronic) | | 1 | | | 1 | 2 | 2 | 2 | | | 2 | 4 | 4 |
| Size (electronic) | | 0 | | | 1 | 1 | 2 | 0 | | | 2 | 2 | 0 |
| 2-Sided Total (electronic) | | 0 | | | 0 | | | 1 | 1 | 2 | 1 | 1 | 4 |
| 2-Sided Size (electronic) | | 0 | | | 0 | | | 0 | | | 1 | 1 | 4 |
| Total by account | | 1 | | | 1 | 2 | 2 | 2 | | | 2 | 4 | 4 |
| Size by account | | 0 | | | 1 | 1 | 2 | 0 | | | 2 | 2 | 4 |
| Key (mechanical) | Counting copies | 1 | | | 1 | 2 | 2 | 1 | 2 | 2 | 1 | 4 | 4 |
| | Counting copy cycles | 1 | | | 1 | 2 | 2 | 2 | | | 2 | 4 | 4 |

0: No count 1: 1 count 2: 2 counts 3: 3 counts 4: 4 counts

# 7 ADJUST MODE

- Adjust mode is for adjustments to be made before shipment at the factory. As a rule, use this mode only when MFB Board UN2, or EEPROM (IC3A) on Master Board PWB-A has been replaced with a new one.

## 7-1. Adjust Mode Menu Screen

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## 7-2. Adjust Mode Function Setting Procedure

<Setting Procedure>

1. Set the copier into the Tech. Rep. mode by the following method:

- With the Meter Count screen opened from Utility, press the following keys in this order.

[Stop Key] ➡ [0] ➡ [0] ➡ [Stop Key] ➡ [0] ➡ [1]

2. Enter the Adjust mode by pressing the following keys in this order:

[Stop Key] ➡ [Start Key]

3. Select the particular Adjust mode function to be set.
4. Make the necessary settings by following the instructions given sequentially on the screen.

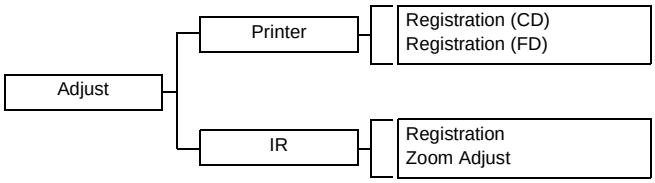
✻ The function selected is highlighted.

<Exiting the Mode>

Perform any one of the following steps to go back to the Basic screen.

- Press the Panel Reset key and Touch [Exit] on the Tech. Rep. Mode screen.
- Touch [END] on the Adjust mode screen. Then touch [Exit] on the Tech. Rep. Mode screen.

## 7-3. Adjust Mode Function Tree




## 7-4. Settings in the Adjust Mode

**(1) Printer**

- This function is used to enter the adjustment values as they relate to the printer.

<Setting Procedure>
1. Touch [Printer] to open the Printer screen.
2. Select the desired subfunction.

Tech. Rep. Mode ▶ Adjust

<table>
<tr><th>Touch Panel Display</th><th>Setting (The default is Highlighted ).</th></tr>
<tr><td>Registration (CD)</td><td>Adjust registration of the printer in the main scanning direction.
<table>
<tr><td>1st Drawer</td><td rowspan="3">-4.0mm.....0.....+4.0mm</td></tr>
<tr><td>2nd Drawer</td></tr>
<tr><td>3rd Drawer</td></tr>
<tr><td>4th Drawer</td><td rowspan="3">Advanced timing ◄——► Retarded timing</td></tr>
<tr><td>5th Drawer</td></tr>
<tr><td>Duplex</td></tr>
</table>
✻ Adjust “Duplex” after adjustments have been completed for all drawers.</td></tr>
<tr><td>Registration (FD)</td><td>Adjust registration of the printer in the sub-scanning direction.
<table>
<tr><td>-19.....0.....+19</td></tr>
<tr><td>Advanced timing ◄——► Retarded timing</td></tr>
</table></td></tr>
</table>

**(2) IR**

- This function is used to enter the adjustment values as they relate to the IR.

<Setting Procedure>
1. Touch [IR] to open the IR screen.
2. Select the desired subfunction.

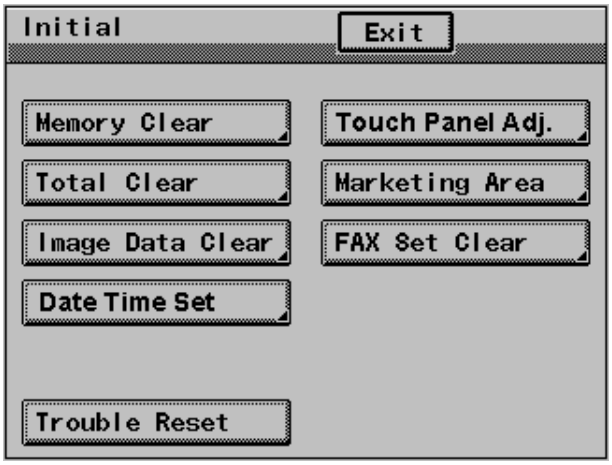
Tech. Rep. Mode ▶ Adjust

| Touch Panel Display | Setting (The default is **Highlighted** ). |
|---|---|
| Registration | Adjust registration of the Scanner in the main and sub-scanning directions.<br>Main scaning (CD)<br>-72 dot.....**0**.....+72 dot<br>Smaller ◄——► Greater<br>Sub scaning (FD)<br>-24 dot.....**0**.....+127 dot<br>Smaller ◄——► Greater |
| Zoom Adjust | Adjust the scanning zoom ratio of the Scanner in the main and sub-scanning directions.<br>0.990.....**1.000**.....1.010<br>Smaller ◄——► Greater |

# 8 INITIAL MODE

- Initial mode is used to initialize the various service functions.

## 8-1. Initial Mode Menu Screen




1167S013CB

## 8-2. Initial Mode Function Setting Procedure

<Setting Procedure>

1. Enter the Initial mode by pressing the following keys in this order:

   Warm Restart Switch ON ➡ Enter "3" from the 10-Key Pad when "." appears at the center on the left side of the screen while the start-up screen is being displayed.

2. Select the particular Initial mode function to be set.
3. Make the necessary settings by following the instructions given sequentially on the screen.

✻ The function selected is highlighted.

<Exiting the Mode>

- Touch [Exit] on the Initial mode screen to go back to the Basic screen.

## 8-3. Settings in the Initial Mode

Tech. Rep. Mode ▶ Initial

| Touch Panel Display | Setting (The default is **Highlighted** ). |
|---|---|
| Memory Clear | Clears all data except the electronic counters, Adjust, Copy Track-related, and DT-related settings.<br>Yes / **NO** |
| Touch Panel Adj. | Corrects deviation in the sensitive area of the Touch Panel.<br><Procedure><br>Sequentially touch the four points marked with + on the screen as instructed by the arrow. |
| Total Clear | Clears all of the electronic counters and Copy Track-related data.<br>Yes / **NO** |
| Marketing Area | Selects the settings for the fixed zoom ratios, paper sizes, and others according to the marketing area.<br>**MJ** / MC / MH / Others |
| Image Data Clear | Clears the image data stored in file memory of the MFB Board.<br>Yes / **NO** |
| FAX Set Clear | Clears the fax-related settings.<br>✻ Two or more items can be selected.<br>Own Setting / The Address / Transmission Manage / Soft Switch — Yes / **NO** |
| Date Time Set | Sets the time-of-day and date. |
| Trouble Reset | Resets all malfunctions including the Fusing ones (C05XX).<br>✻ Malfunctions other than Fusing ones can be reset by turning OFF and ON the Power Switch and opening and closing the Side Cover. |

FrameMaker Ver.5.5E(PC) Di350 TROUBLESHOOTING
98.12.09

# Di350

# TROUBLESHOOTING

MINOLTA

14413

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# 1 INTRODUCTION

## 1-1. General Precautions

1. When servicing the copier with its covers removed, use utmost care to prevent your hands, clothing, and tools from being caught in revolving parts including the chains and gears. When servicing the copier with the Rear Cover removed, be sure to fit the interlock switch actuating jig in position.
2. Before attempting to replace parts and unplug connectors, make sure that the power cord of the copier has been unplugged from the wall outlet.
3. Never create a closed circuit across connector pins except those specified in the text and on the printed circuit.
4. When creating a closed circuit and measuring a voltage across connector pins specified in the text, be sure to use the green wire (GND).
5. When the user is using a word processor or personal computer from a wall outlet of the same line, take necessary steps to prevent the circuit breaker from opening due to overloads.
6. Keep all disassembled parts in good order and keep tools under control so that none will be lost or damaged.

## 1-2. How to Use This Book

1. If a component on a PWB or any other functional unit including a motor is defective, the text only instructs you to replace the whole PWB or functional unit and does not give troubleshooting procedures applicable within the defective unit.
2. All troubleshooting procedures contained herein assume that there are no breaks in the harnesses and cords and all connectors are plugged into the right positions.
3. For the removal procedures of covers and parts, see DIS/REASSEMBLY, ADJUSTMENT.
4. The troubleshooting procedures are given in the order of greater frequency of trouble or order of operation.
5. The procedures preclude possible malfunctions due to noise and other external causes.

## 1-3. Reading the Text

1. The paper transport failure troubleshooting procedures are given according to the symptom. First identify the location where the paper is present and start the procedure for that particular location. For malfunction troubleshooting, start with step 1 and onward.
2. Make checks in numerical order of steps and, if an item is checked okay, go to the next step.

Pattern 1

| Step | Check Item | Result | Action |
|---|---|---|---|
| 1 | Is--? | YES | Do this. |
| 2 | | ↑ | |

Go to step 2 if you answered No.

Pattern 2

| Step | Check Item | Result | Action |
|---|---|---|---|
| 1 | Is--? | YES | Do this. |
| | | NO | Check that. |
| 2 | | | ↑ |

Go to step 2 if it checks okay.

# 2 I/O CHECK

## 2-1. Controlled Parts Check Procedure

To allow the Tech. Rep. to easily and safely determine whether a particular controlled part is fully operational, this copier provides the following provision: checking the data of the input port of the board IC with the copier in the standby state (including a misfeed, malfunction, and closure failure condition) allows the Tech. Rep. to determine whether signals are properly input to a controlled part.

<Procedure>
1. When a misfeed or malfunction occurs, locate on a circuit diagram accompanying the text the controlled part which is probably defective.
2. Select “I/O Check” from the Tech. Rep. Mode menu screen and then access the screen which contains the controlled part picked out in step 1 above. (See SWITCHES ON PWBs/TECH. REP. MODE.)
3. Check the input port data to determine if a signal is probably input to the controlled part.

<Controlled Part Check Procedure Through Checking Input Port Data>

**Example**
When a paper misfeed occurs in the paper take-up section of the copier, Synchronizing Roller Sensor PC2 is considered to be responsible for it.

<Procedure>
1. Remove the sheet of paper misfed.
2. From the I/O Check list, it is found that the signal input to PC2 is “Timing Roller.”
3. Select “I/O Check” from Tech. Rep. Mode and then “Printer.” Now, access the screen that contains “Timing Roller.”
4. Check that the input port data of “Timing Roller” is “0” (sensor is blocked).
5. Move the PC2 actuator to unblock the sensor.
6. Check at this time that the input port data on the screen changes from “0” to “1.”

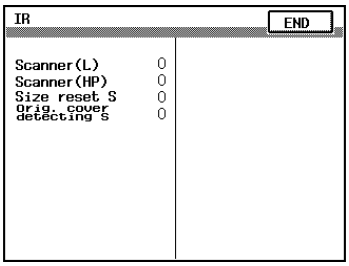
1: PC2 is operational. 0: PC2 is faulty.

## 2-2. I/O Check List

<I/O Check Screens>

- The following screens are only typical and the input data shown does not necessarily represent the actual one.

IR

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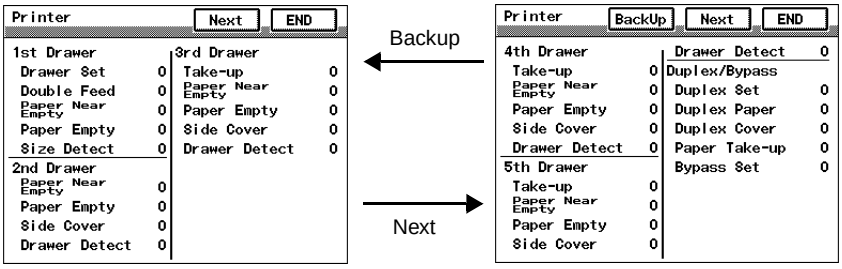
Printer

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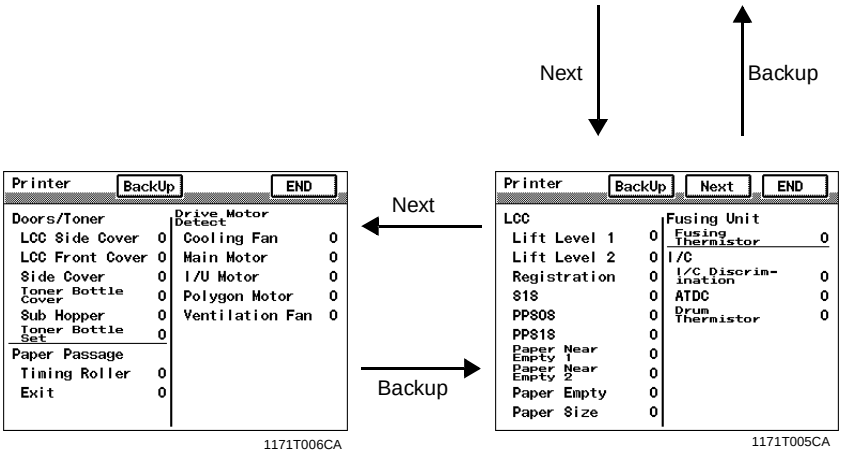


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<I/O Check List>

IR

| Symbol | Panel Display | Parts/Signal Name | Operation Characteristics/Panel Display | | Input Board | IC No. | Port No. | CN/PJ No. |
|---|---|---|---|---|---|---|---|---|
| | | | 1 | 0 | | | | |
| PC13 | Scanner (L) | Scanner Home Position Sensor 2 | Blocked | Unblocked | HGB Board | — | —— | CN7HGB-27 |
| PC12 | Scanner (HP) | Scanner Home Position Sensor 1 | At home | Not at home | | — | —— | CN7HGB-26 |
| S5 | Size reset S | Size Reset Switch | When closed | When opened | | — | —— | CN7HGB-24 |
| PC14 | Orig. cover detecting S | Original Cover Detecting Sensor | Within 15° | 15° or more | | — | —— | CN7HGB-25 |

Printer

| Symbol | Panel Display | | Parts/Signal Name | | Operation Characteristics/Panel Display | | Input Board | IC No. | Port No. | CN/PJ No. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 1 | 0 | | | | |
| PC6 | 1st Drawer | Drawer Set | Cassette Set Sensor | | In position | Out of position | Master Board PWB-A | IC1 | PO1 | PJ13A-5B |
| PWB-H | | Double Feed | Double Feed Detecting Board | | Blocked ✻1 | Unblocked ✻1 | | IC1 | PO2 | PJ14A-8B |
| PC5 | | Paper Near Empty | Paper Near Empty Sensor | | Unblocked | Blocked | | IC1 | PO3 | PJ13A-2B |
| PC4 | | Paper Empty | Paper Empty Sensor | | Paper not present | Paper present | | IC1 | PO5 | PJ14A-13A |
| PWB-I | | Size Detect | Paper Size Detecting Board | | Analog value | | | IC1 | P103/ AN3 | PJ14A-1B to PJ14A-4B |
| S5 | 2nd Drawer | Paper Near Empty | Paper Near Empty Sensor | | Unblocked | Blocked | Cassette Main Board PWB-A | IC1 | P12 | PJ3A-11B |
| S4 | | Paper Empty | Paper Empty Sensor | | Paper not present | Paper present | | IC1 | P6 | PJ3A-5B |
| S2 | | Side Cover | Side Cover Set Sensor | | When opened | When closed | | IC1 | P9 | PJ3A-8B |
| S1 | | Drawer Detect | Cassette Set Switch | | In position: 2 displayed Out of position: 0 displayed | | | IC1 | P11 | PJ3A-12A |
| S3 | 3rd Drawer | Take-up | Take-Up Sensor | | Paper present | Paper not present | Cassette Main Board PWB-A: PF-108/ PF-110 | IC1 | P5 | PJ3A-2B |
| S5 | | Paper Near Empty | Paper Near Empty Sensor | | Unblocked | Blocked | | IC1 | P12 | PJ3A-11B |
| S4 | | Paper Empty | Paper Empty Sensor | | Paper not present | Paper present | | IC1 | P6 | PJ3A-5B |
| S2 | | Side Cover | Side Cover Set Sensor | | When opened | When closed | | IC1 | P9 | PJ3A-8B |
| S1 | | Drawer Detect | Cassette Set Switch | When PF-110 is used | In position | Out of position | | IC1 | P10 | PJ3A-9A |
| | | | | When PF-108 is used | In position: 2 displayed Out of position: 0 displayed | | | IC1 | P11 | PJ3A-12A |

✻ 1: The display of 1 or 0 is selected only while Main Motor M2 is being energized.

| Symbol | Panel Display | | Parts/Signal Name | | Operation Characteristics/Panel Display | | Input Board | IC No. | Port No. | CN/PJ No. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 1 | 0 | | | | |
| S3 | 4th Drawer | Take-up | Take-Up Sensor | | Paper present | Paper not present | Cassette Main Board PWB-A: PF-108/ PF-110 | IC1 | P5 | PJ3A-2B |
| S5 | | Paper Near Empty | Paper Near Empty Sensor | | Unblocked | Blocked | | IC1 | P12 | PJ3A-11B |
| S4 | | Paper Empty | Paper Empty Sensor | | Paper not present | Paper present | | IC1 | P6 | PJ3A-5B |
| S2 | | Side Cover | Side Cover Set Sensor | | When opened | When closed | | IC1 | P9 | PJ3A-8B |
| S1 | | Drawer Detect | Cassette Set Switch | When PF-110 is used | In position | Out of position | | IC1 | P10 | PJ3A-9A |
| | | | | When PF-108 is used | In position: 2 displayed Out of position: 0 displayed | | | IC1 | P11 | PJ3A-12A |
| S3 | 5th Drawer | Take-up | Take-Up Sensor | | Paper present | Paper not present | | IC1 | P5 | PJ3A-2B |
| S5 | | Paper Near Empty | Paper Near Empty Sensor | | Unblocked | Blocked | | IC1 | P12 | PJ3A-11B |
| S4 | | Paper Empty | Paper Empty Sensor | | Paper not present | Paper present | | IC1 | P6 | PJ3A-5B |
| S2 | | Side Cover | Side Cover Set Sensor | | When opened | When closed | | IC1 | P9 | PJ3A-8B |
| S1 | | Drawer Detect | Cassette Set Switch | When PF-110 is used | In position | Out of position | | IC1 | P10 | PJ3A-9A |
| | | | | When PF-108 is used | In position: 2 displayed Out of position: 0 displayed | | | IC1 | P11 | PJ3A-12A |
| —— | Duplex/ Bypass | Duplex Set | Duplex Unit Set signal | | In position | Out of position | Master Board PWB-A | IC1 | P91 | PJ4A-3B |
| PI1 | | Duplex Paper | Duplex Unit Transport Sensor | | Paper present | Paper not present | | IC1 | P92 | PJ4A-2B |
| S2 | | Duplex Cover | Duplex Unit Door Set Sensor | | When opened | When closed | | IC1 | P90 | PJ4A-1B |
| PC8 | | Paper Take-up | Manual Feed Paper Take-Up Sensor | | Paper present | Paper not present | | IC1 | P00 | PJ4A-7B |
| —— | | Bypass Set | Manual Bypass Tray Set signal | | In position | Out of position | | IC1 | P30 | PJ4A-9B |

| Symbol | Panel Display | | Parts/Signal Name | Operation Characteristics/Panel Display | | Input Board | IC No. | Port No. | CN/PJ No. |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 1 | 0 | | | | |
| LS1 | LCC | Lift Level 1 | Lift-Up Sensor 1 | At upper limit | Not at upper limit | LCC Main Board PWB-A: PF-106 | IC4 | P74/ ANI4 | CN4A-6 |
| LS2 | | Lift Level 2 | Lift-Up Sensor 2 | At upper limit | Not at upper limit | | IC4 | P73/ ANI3 | CN4A-9 |
| RSEN | | Registration | Registration Sensor | Paper present | Paper not present | | IC4 | P22/ INTP1 | CN4A-2 |
| S1 | | S1S | Paper Standby Position Sensor | Paper present ✻2 | Paper not present ✻2 | | IC4 | P23/ INTP2/ CI | CN3A-5 |
| PPS0 | | PPS0S | LCC Take-Up Sensor | Paper present | Paper not present | | IC4 | P24/ INTP3 | CN4A-11 |
| PPS1 | | PPS1S | Paper Empty Sensor 1 | Paper present | Paper not present | | IC4 | P25/ INTP4/ ASCK | CN3A-2 |
| RS1 | | Paper Near Empty 1 | Paper Near Empty Sensor 1 | Blocked | Unblocked | | IC4 | P75/ ANI5 | CN6A-1 |
| RS2 | | Paper Near Empty 2 | Paper Near Empty Sensor 2 | Blocked | Unblocked | | IC4 | P76/ ANI6 | CN5A-5 |
| PPS2 | | Paper Empty | Paper Empty Sensor 2 | Paper present | Paper not present | | IC4 | P72/ ANI2 | CN3A-8 |
| SW1 | | Paper Size | DIP switch | Letter C: 0 displayed<br>A4C: 1 displayed<br>B5C: 2 displayed | | | IC4 | P13, P14, P15 | ——— |
| TH1 | Fusing Unit | Fusing Thermistor | Fusing Roller Thermistor | Analog value | | Master Board PWB-A | IC1 | P107/ AN7 | PJ16A-5 |
| —— | I/C | I/C Discrimination | I/C Type Detection signal | Analog value | | | IC1 | P100/ AN0 | PJ15A-3 |
| E1 | | ATDC | ATDC Sensor | Analog value | | | IC1 | P106/ AN6 | PJ15A-5 |
| TH2 | | Drum Thermistor | I/C Thermistor | Analog value | | | IC1 | P104/ AN4 | PJ13A-10A |

✻ 2: The display of 1 or 0 is selected only while LCC Transport Motor HMOT is being energized.

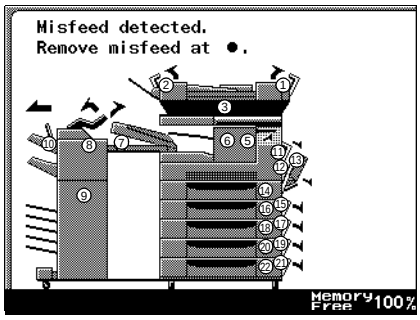
| Symbol | Panel Display | | Parts/Signal Name | Operation Characteristics/Panel Display | | Input Board | IC No. | Port No. | CN/PJ No. |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 1 | 0 | | | | |
| SIDE | Doors/ Toner | LCC Side Cover | Side Cover Set Sensor | When opened | When closed | LCC Main Board PWB-A | IC4 | P34/ T00 | CN3A-12 |
| FRONT | | LCC Front Cover | LCC Set Sensor | Out of position | In position | | IC4 | P35/ T01 | CN6A-4 |
| S2 | | Side Cover | Side Cover Interlock Switch | When opened | When closed | Master Board PWB-A | IC1 | P31 | PJ7A-1 |
| PC11 | | Toner Bottle Cover | Toner Bottle Cover Sensor | When opened | When closed | | IC1 | P33 | PJ11A-5B |
| S4 | | Sub Hopper | Sub Hopper Toner Empty Switch | Toner not loaded: 1 and 0 alternately displayed. Toner loaded: 0 displayed | | | IC1 | P06 | PJ11A-7B |
| PC10 | | Toner Bottle Set | Toner Bottle Home Position Sensor | At home | Not at home | | IC1 | P40 | PJ11A-2B |
| PC2 | Paper Passage | Timing Roller | Synchronizing Roller Sensor | Paper present | Paper not present | | IC1 | P41 | PJ13A-7A |
| PC3 | | Exit | Paper Exit Sensor | Paper present | Paper not present | | IC1 | P77 | PJ13A-12A |
| M3 | Drive Motor Detect | Cooling Fan | Fusing Cooling Fan Motor/LOCK | When energized: 1 and 0 alternately displayed. When deenergized: 0 displayed | | | IC1 | P04 | PJ13A-5A |
| M2 | | Main Motor | Main Motor/LOCK | When energized | When deenergized | | IC1 | P43 | PJ16A-2 |
| M1 | | I/U Motor | I/C Motor/LOCK | When energized | When deenergized | | IC1 | P42 | PJ16A-4 |
| M10 | | Polygon Motor | Polygon Motor/ LOCK | When energized | When deenergized | | IC1 | P95 | PJ8A-4 |
| M8 | | Ventilation Fan | Ozone Fan Motor | When energized: 1 and 0 alternately displayed. When deenergized: 0 displayed | | | IC1 | P51 | PJ11A-3A |

# 3 PAPER TRANSPORT FAILURE

## 3-1. Paper Misfeed

When a paper misfeed occurs, the Touch Panel shows the corresponding message, misfeed location, and paper location.

| | |
|---|---|
| ⊗ display | Misfeed location |
| ○ display | Paper location |



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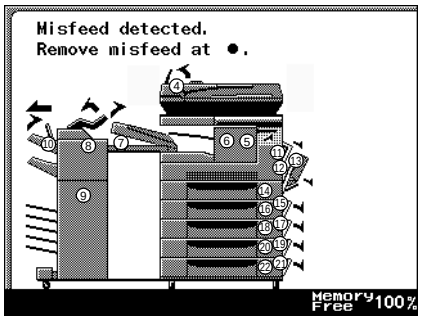

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| ⊗ or ○ Display | Misfeed/Paper Location | Ref. Page |
|---|---|---|
| 1 | AFR-14 take-up, AFR-14 single feed | See the relevant option service manual. |
| 2 | AFR-14 reverse, AFR-14 exit | |
| 3 | AFR-14 transport | |
| 4 | AF-7 take-up, AF-7 transport | |
| 5 | JS-200 transport | |
| 6 | JS-200 exit | |
| 7 | Horizontal transport | |
| 8 | Finisher transport, 1st Tray exit, Elevator Tray exit | |
| 9 | Mailbin transport | |
| 10 | Finisher Tray | |
| 11 | Separator, Fusing Unit | (3) |
| 12 | Manual Bypass take-up | (2) |
| 13 | Duplex turnover, Duplex take-up | (6) |
| 14 | 1st Drawer take-up | (1) |
| 15 | 2nd Drawer transport | (1) |
| 16 | 2nd Drawer take-up | (1) |
| 17 | 3rd Drawer transport (PF-108/PF-110/PF-106) | (4) or (5) |
| 18 | 3rd Drawer take-up (PF-108/PF-110/PF-106) | (4) or (5) |
| 19 | 4th Drawer transport (PF-108/PF-110/PF-106) | (4) or (5) |
| 20 | 4th Drawer take-up (PF-108/PF-110/PF-106) | (4) or (5) |
| 21 | 5th Drawer transport (PF-108/PF-110) | (4) |
| 22 | 5th Drawer take-up (PF-108/PF-110) | (4) |

✻ If a communications error occurs between UN2 and PWB-A during a copy cycle, it forces a paper misfeed condition (○ displayed on the Touch Panel). If that happens, check the circuit between UN2 and PWB-A for proper connection and, if it is intact, replace the board.

<Resetting the Display>

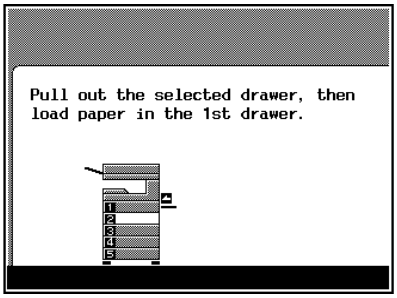
| Misfeed in the copier | Misfeed in the option |
|---|---|
| Remove all sheets of paper misfed and left inside, and then open and close the Side Cover. | Remove all sheets of paper misfed and left inside, and then raise and lower or disconnect and reconnect the option. |

✻ If the misfeed display is not reset by these procedures, check the misfeed detecting sensor at the paper location.

## 3-2. Size Error

The following warning screen appears after a misfeed display has been reset if the actual size of the paper loaded in a paper source differs from the paper size set for that particular paper source.

[1st to 5th Drawer]

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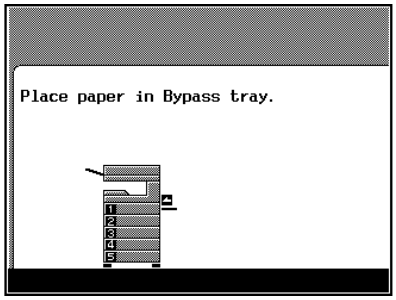
[Manual Bypass]

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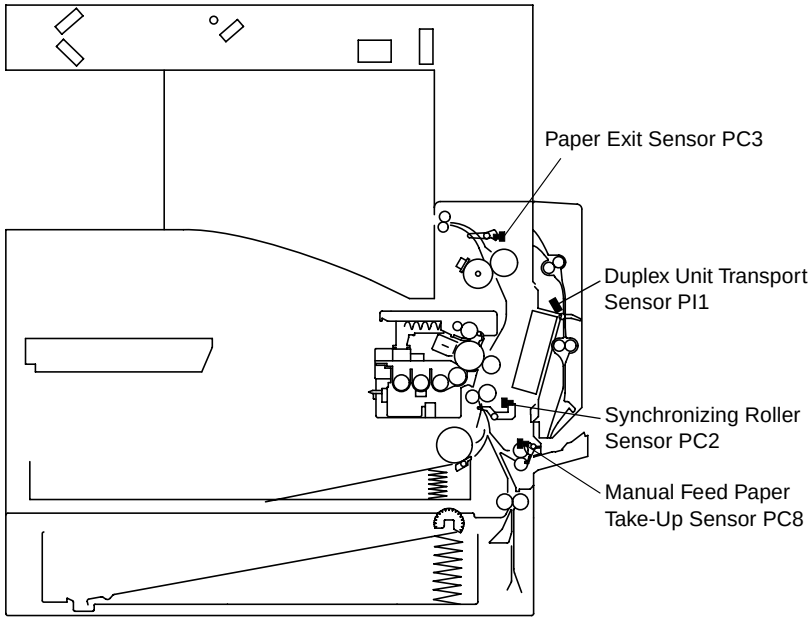
✻ 1st to 5th Drawer: A size error is indicated by a highlighted paper source in the copier overview display. (In the above example, there is a size error in the 2nd Drawer.)

<Resetting the Size Error Display>
Slide out the drawer, then slide it back in, or load paper in the Manual Bypass Tray.

<Causes of a Size Error>
- Wrong paper size settings have been made.
- The user loads paper of a size different from what is set for the paper source.
- Two or more sheets of paper are being taken up and fed in.

## 3-3. Misfeed Detection Sensor Layout



## 3-4. Types of Misfeed Detection and Detection Timings

- The following are the types of misfeed detection and detection timings for different misfeed locations.

***NOTE***
*For misfeed detection types and detection timings of options, see the relevant option service manual.*

<Copier Take-Up Misfeed>

| Type | Detection Timing | Timer Value T (sec.) |
|---|---|---|
| Paper take-up failure detection | • 1st Drawer paper take-up:<br>Synchronizing Roller Sensor PC2 is not unblocked (H) even after the lapse of T sec. after Paper Take-Up Solenoid SL1 has been energized for the second paper take-up retry sequence. | 0.92 |
| | • 2nd Drawer paper take-up:<br>PC2 is not unblocked (H) even after the lapse of T sec. after SL1 has been energized for the first paper take-up retry sequence. | 1.63 |
| | • 1st/2nd Drawer paper take-up:<br>PC2 is unblocked (H) within T sec. after SL1 has been energized. | 0.20 |

<Manual Bypass Take-Up Misfeed>

| Type | Detection Timing | Timer Value T (sec.) |
|---|---|---|
| Bypass paper take-up failure detection | PC2 is not unblocked (H) even after T sec. after Manual Feed Paper Take-Up Clutch CL3 has been energized. | 0.64 |
| | PC2 is unblocked (H) within T sec. after CL3 has been energized. | 0.20 |
| Paper left | Manual Feed Paper Take-Up Sensor PC8 is blocked (L) when the Power Switch is turned ON, CPU is reset, or cover is opened and closed. | ——— |

<Separator Misfeed>

| Type | Detection Timing | Timer Value T (sec.) |
|---|---|---|
| Leading edge detection by Paper Exit Sensor PC3 | PC3 is not blocked (L) even after the lapse of T sec. after PC2 has been unblocked (H). | 1.38 ✻ |
| Trailing edge detection by Synchronizing Roller Sensor PC2 | PC2 is not blocked (L) even after the lapse of T sec. after it has been unblocked (H). | 3.02 ✻ |
| | PC2 is blocked (L) within T sec. after it has been unblocked (H). | 0.75 |
| Paper is stationary | During a sequence of detecting a paper size based on the period of time between when Synchronizing Clutch CL1 is energized and when PC2 is blocked (L), the paper size detected is longer than the size data sent from the controller by +260 mm or more. | ——— |
| Size error detection | The paper size detected based on the period of time between when CL1 is energized and when PC2 is blocked (L) is more than the size data sent from the controller by ±20 mm or more. | ——— |
| Paper left | PC2 is unblocked (H) when the Power Switch is turned ON, CPU is reset, or cover is opened and closed. | ——— |

✻ Excludes the period of time during which the paper is stationary before the Synchronizing Roller.

<Fusing Misfeed>

| Type | Detection Timing | Timer Value T (sec.) |
|---|---|---|
| Trailing edge detection by Paper Exit Sensor PC3 | PC3 is not unblocked (H) even after the lapse of T sec. after PC2 has been blocked (L). | 1.41 |
| Paper left | PC3 is blocked (L) when the Power Switch is turned ON, CPU is reset, or cover is opened and closed. | ——— |

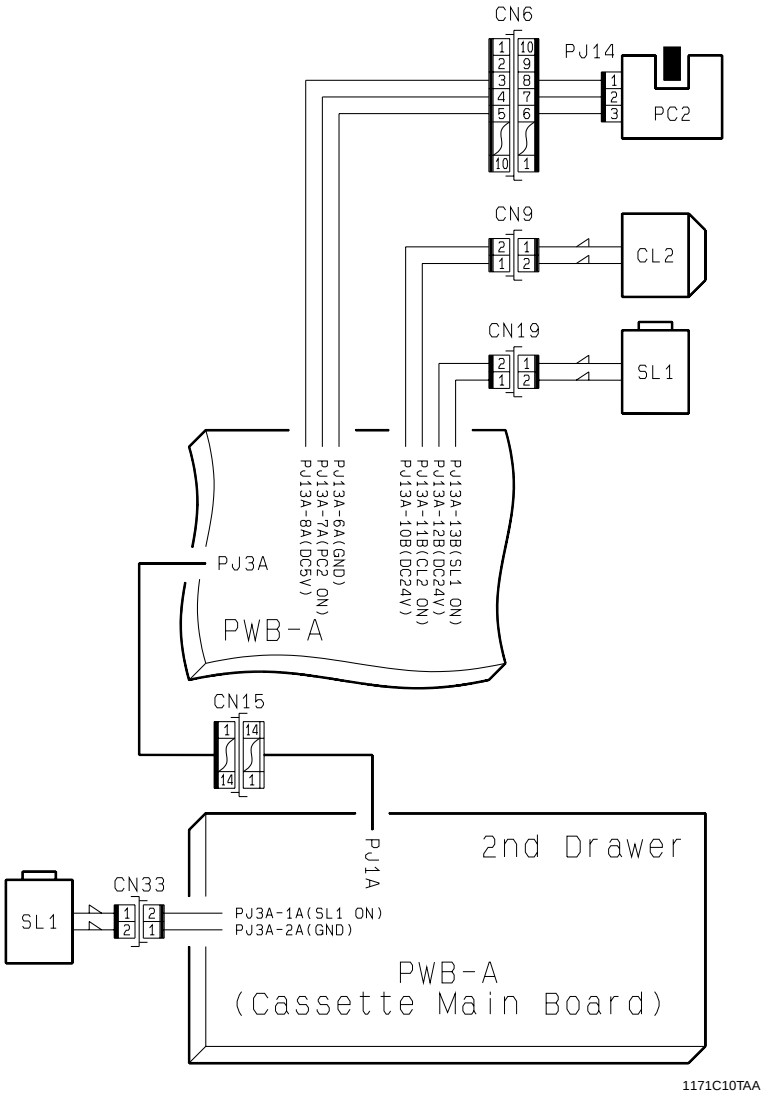
<Duplex Turnover/Take-Up Misfeed>

| Type | Detection Timing | Timer Value T (sec.) |
|---|---|---|
| Leading edge detection during Duplex transport | Duplex Unit Transport Sensor PI1 is not blocked (H) even after the lapse of T sec. after Paper Exit Sensor PC3 has been unblocked (H). | 1.52 |
| Paper take-up failure detection | PC2 is not unblocked (H) even after the lapse of T sec. after the Duplex paper take-up sequence has been started. | 0.88 |
| | PC2 is unblocked (H) within T sec. after the Duplex paper take-up sequence has been started. | 0.20 |
| Paper left | PI1 is blocked (H) when the Power Switch is turned ON, CPU is reset, or cover is opened and closed. | ——— |

## 3-5. Misfeed Troubleshooting Procedures

### (1) Copier Take-Up Misfeed

| Relevant Electrical Parts | |
|---|---|
| Paper Take-Up Solenoid SL1 | Master Board PWB-A |
| Synchronizing Roller Sensor PC2 | Cassette Main Board PWB-A |

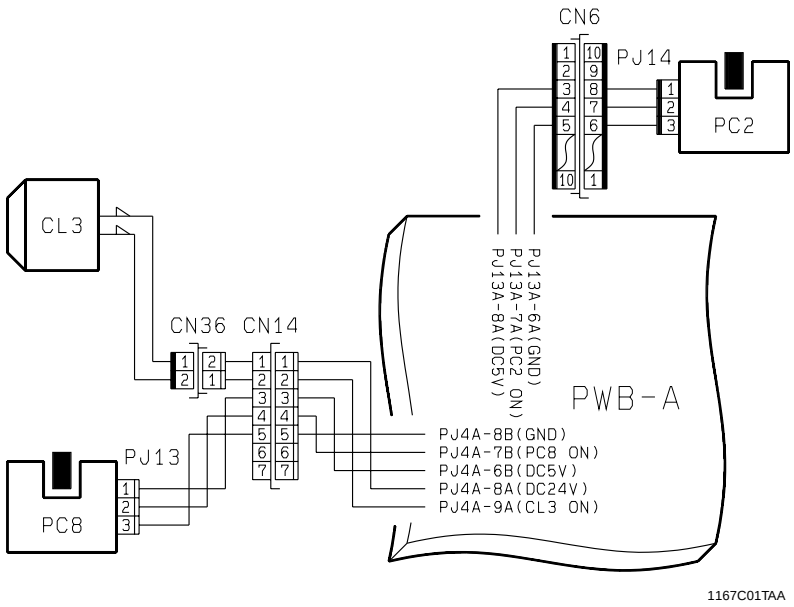


<Copier Take-Up Misfeed Troubleshooting Procedure>

| Symptom | Step | Check Item | Result | Action |
|---|---|---|---|---|
| Paper is not taken up at all. | 1 | Does the paper being used meet the product specifications? | NO | Instruct the user to use the paper that meets product specifications. |
| | 2 | Is the paper curled, wavy, or damp? | YES | Change the paper. Instruct the user on the storage of paper. |
| | 3 | Are the Edge Guide and Trailing Edge Stop (of the drawer) positioned to the exact size of the paper used? | NO | Slide the guides to the exact size of the paper. |
| | 4 | Is the Paper Take-Up Roll deformed, worn, or dirty with paper dust? | YES | Clean or change the Paper Take-Up Roll. |
| | 5 | If the Paper Lifting Plate dirty or deformed? | YES | Clean or change the Paper Lifting Plate. |
| | 6 | Has the misfeed been detected while the Multi Purpose Cassette was being used? | YES | Check steps 7 and 8. |
| | | | NO | Check steps 9 and onward. |
| | 7 | Is the Paper Separator Pad deformed, worn, or dirty with paper dust? | YES | Clean or change the Paper Separator Pad. |
| | 8 | Check SL1 for operation. Does the voltage across CN19-1 on the PWB-A side and GND change from DC24V to DC0V when the Start key is pressed? | YES | Check various parts for possible overload and, if they are okay, change SL1. |
| | | | NO | Change PWB-A. |
| | 9 | Is the Paper Separator Finger dirty or deformed? | YES | Clean or change the Paper Separator Finger. |
| | 10 | Check CL2 for operation. Does the voltage across CN9-1 on the PWB-A side and GND change from DC24V to DC0V when the Start key is pressed? | NO | Change PWB-A. |
| | 11 | Check SL1 for operation. Does the voltage across PJ3A-1A on PWB-A (Cassette Main Board) and GND change from LOW to HIGH when the Start key is pressed? | YES | Check various parts for possible overload and, if they are okay, change SL1 or CL2. |
| | | | NO | Change PWB-A (Cassette Main Board) or PWB-A. |
| • Paper is at a stop before the vertical transport section.<br>• Paper is at a stop near the Synchronizing Rollers. | 1 | Is the Vertical Transport Roller deformed, worn, or dirty with paper dust? | YES | Clean or change the Vertical Transport Roller. |
| | 2 | If the Vertical Transport Guide Plate dirty or deformed? | YES | Clean or change the Vertical Transport Guide Plate. |
| | 3 | Is PC2 fully operational? Check the input data using I/O Check. | YES | Check various parts for possible overload and, if they are okay, change PWB-A. |
| | | | NO | Check the PC2 actuator for operation and, if it is intact, change PC2. |

**(2) Manual Bypass Take-Up Misfeed**

| Relevant Electrical Parts | |
|---|---|
| Manual Feed Paper Take-Up Clutch CL3 | Manual Feed Paper Take-Up Sensor PC8 |
| Synchronizing Roller Sensor PC2 | Master Board PWB-A |

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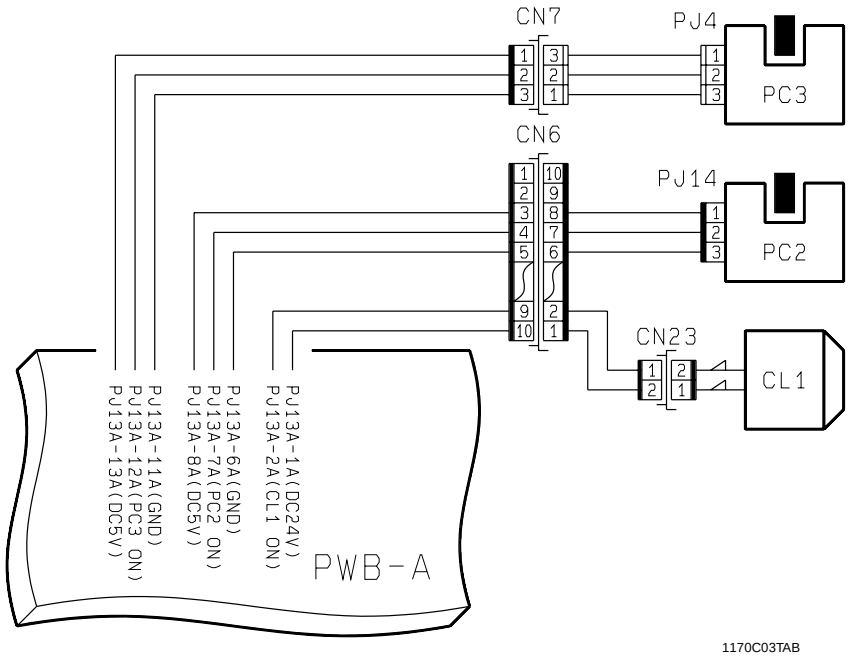
<Manual Bypass Take-Up Misfeed Troubleshooting Procedure>

| Symptom | Step | Check Item | Result | Action |
|---|---|---|---|---|
| Paper is not taken up at all. | 1 | Does the paper being used meet the product specifications? | NO | Instruct the user to use the paper that meets product specifications. |
| | 2 | Is the paper curled, wavy, or damp? | YES | Change the paper. Instruct the user on the storage of paper. |
| | 3 | Is the Manual Feed Paper Take-Up Roller or Roll deformed, worn, or dirty with paper dust? | YES | Clean or change the Manual Feed Paper Take-Up Roller or Roll. |
| | 4 | Is PC8 fully operational? Check the input data using I/O Check. | NO | Check the PC8 actuator for operation and, if it is intact, change PC8. |
| | 5 | Check CL3 for operation. Does the voltage across CN14-2 and GND change from DC24V to DC0V when the misfeed condition is reset? | YES | Check various parts for possible overload and, if they are okay, change CL3. |
| | | | NO | Change PWB-A. |
| Paper is at a stop near the Synchronizing Rollers. | 1 | Is PC2 fully operational? Check the input data using I/O Check. | YES | Check various parts for possible overload and, if they are okay, change PWB-A. |
| | | | NO | Check the PC2 actuator for operation and, if it is intact, change PC2. |

**(3) Separator/Fusing Misfeed**

| Relevant Electrical Parts | |
|---|---|
| Paper Exit Sensor PC3 | Synchronizing Clutch CL1 |
| Synchronizing Roller Sensor PC2 | Master Board PWB-A |



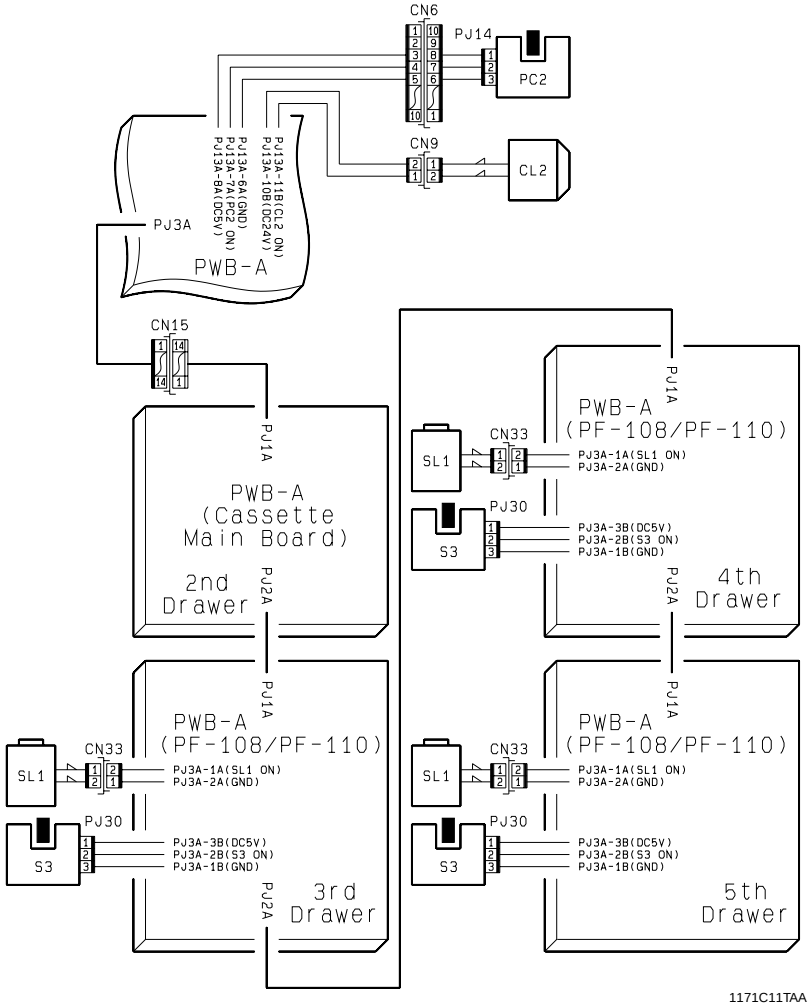

1170C03TAB

<Separator/Fusing Misfeed Troubleshooting Procedure>

| Symptom | Step | Check Item | Result | Action |
|---|---|---|---|---|
| Paper is at a stop near the Synchronizing Rollers. | 1 | Are the Synchronizing Rollers deformed, worn, or dirty with paper dust? | YES | Clean or change the Synchronizing Rollers. |
| | 2 | Is a good length of loop formed before the Synchronizing Rollers? | NO | Select the following functions in this order: Tech. Rep. Mode → Tech. Rep. Choice → Printer → Loop Adjustment and make the loop adjustment. |
| | 3 | Is a size error displayed when the misfeed display is reset? | YES | Check that the size of the paper actually loaded in the current paper source matches the size set for it. |
| | 4 | Is PC2 fully operational? Check the input data using I/O Check. | NO | Check the PC2 actuator for operation and, if it is intact, change PC2. |
| | 5 | Check CL1 for operation. Does the voltage across CN6-9 on the PWB-A side and GND change from DC24V to DC0V when the Start key is pressed? | YES | Check various parts for possible overload and, if they are okay, change CL1. |
| | | | NO | Change PWB-A. |
| Paper is at a stop near the PC Drum. | 1 | Is the Pre-Image Transfer Guide Plate dirty or deformed? | YES | Clean or change the guide plate. |
| | 2 | Is the Image Transfer Roller deformed, worn, or dirty with paper dust? | YES | Clean or change the Image Transfer Roller. |
| Paper is wedged at the PC Drum Paper Separator Fingers. | 1 | Are the PC Drum Paper Separator Fingers dirty or deformed? | YES | Clean or change the separator fingers. |
| | | | NO | Check the clearance between the PC Drum Paper Separator Fingers and PC Drum. |
| Paper is at a stop before the Fusing Rollers. | 1 | Is the Fusing Guide Plate dirty or deformed? | YES | Clean or change the Fusing Guide Plate. |
| Paper is at a stop at the Fusing Rollers. | 1 | Are the Fusing Rollers deformed, worn, or dirty with paper dust? | YES | Clean or change the Fusing Rollers. |
| | 2 | Are the Fusing Separator Fingers dirty or deformed? | YES | Clean, correct, or change the Fusing Separator Fingers. |
| Paper is at a stop at the exit section. | 1 | Is the Paper Exit Roller deformed, worn, or dirty with paper dust? | YES | Clean or change the Paper Exit Roller. |
| | 2 | Is PC3 fully operational? Check the input data using I/O Check. | YES | Check various parts for possible overload and, if they are okay, change PWB-A. |
| | | | NO | Check the PC3 actuator for operation and, if it is intact, change PC3. |

**(4) Paper Take-Up/Transport Misfeed (PF-108/PF-110)**

| Relevant Electrical Parts | |
|---|---|
| Paper Take-Up Solenoid SL1 | Master Board PWB-A |
| Take-Up Sensor S3 | Cassette Main Board PWB-A |
| Synchronizing Roller Sensor PC2 | Cassette Main Board PWB-A: PF-108/PF-110 |
| Transport Clutch CL2 | |

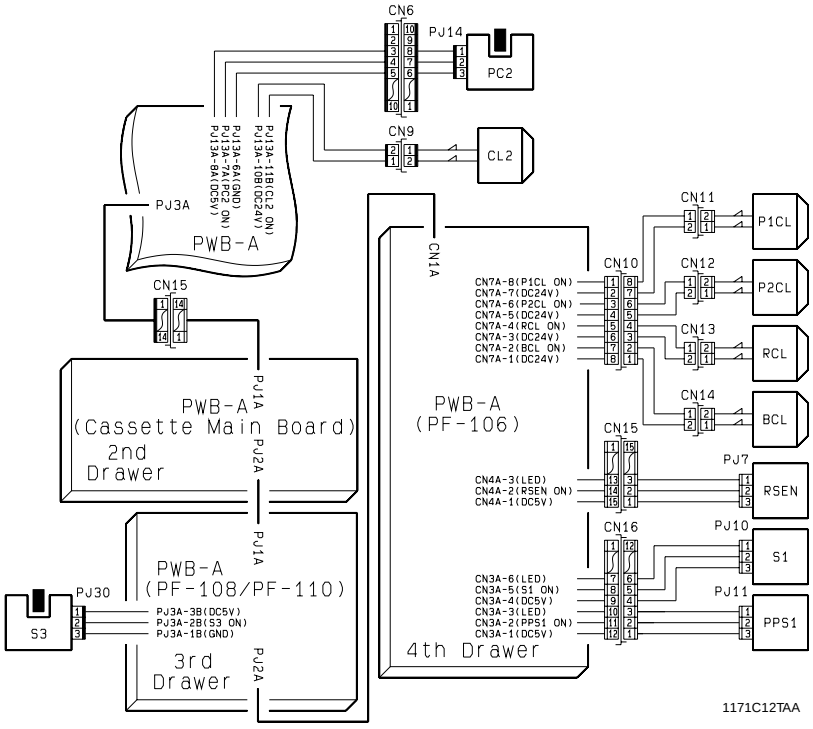


<Paper Take-Up/Transport Misfeed (PF-108/PF-110) Troubleshooting Procedure>

| Symptom | Step | Check Item | Result | Action |
|---|---|---|---|---|
| Paper is not taken up at all. | 1 | Does the paper being used meet the product specifications? | NO | Instruct the user to use the paper that meets product specifications. |
| | 2 | Is the paper curled, wavy, or damp? | YES | Change the paper. Instruct the user on the storage of paper. |
| | 3 | Are the Edge Guide and Trailing Edge Stop (of the drawer) positioned to the exact size of the paper used? | NO | Slide the guides to the exact size of the paper. |
| | 4 | Is the Paper Take-Up Roll deformed, worn, or dirty with paper dust? | YES | Clean or change the Paper Take-Up Roll. |
| | 5 | Is the Paper Lifting Plate dirty or deformed? | YES | Clean or change the Paper Lifting Plate. |
| | 6 | Is the Paper Separator Finger dirty or deformed? | YES | Clean or change the Paper Separator Finger. |
| | 7 | Check CL2 for operation.<br>Does the voltage across CN9-1 on the PWB-A side and GND change from DC24V to DC0V when the Start key is pressed? | NO | Change PWB-A. |
| | 8 | Check SL1 for operation.<br>Does the voltage across PJ3A-1A on PWB-A (PF-108/PF-110) and GND change from LOW to HIGH when the Start key is pressed? | YES | Check various parts for possible overload and, if they are okay, change SL1 or CL2. |
| | | | NO | Change PWB-A (PF-108/PF-110), PWB-A (Cassette Main Board), or PWB-A, in that order. |
| • Paper is at a stop at the vertical transport section.<br>• Paper is at a stop near the Synchronizing Rollers. | 1 | Is the Vertical Transport Roller deformed, worn, or dirty with paper dust? | YES | Clean or change the Vertical Transport Roller. |
| | 2 | Is the Vertical Transport Guide Plate dirty or deformed? | YES | Clean or change the Vertical Transport Guide Plate. |
| | 3 | Is a size error displayed when the misfeed display is reset? | YES | Check that the size of the paper loaded in the current drawer matches the size set for that drawer. |
| | 4 | ✻ A misfeed is detected at the transport section of the 3rd Drawer.<br>Is PC2 fully operational? Check the input data using I/O Check. | NO | Check the PC2 actuator for operation and, if it is intact, change PC2. |
| | 5 | Are all S3's fully operational? Check the input data using I/O Check. | YES | Check various parts for possible overload and, if they are okay, change PWB-A. |
| | 6 | Does the voltage across PJ3A-2B on PWB-A (PF-108/PF-110) and GND change to DC0V when S3 is blocked and to DC5V when S3 is unblocked? | YES | Change PWB-A (PF-108/PF-110) or PWB-A (Cassette Main Board). |
| | | | NO | Check the S3 actuator for operation and, if it is intact, change S3. |

**(5) Paper Take-Up/Transport Misfeed (PF-106)**

| Relevant Electrical Parts | |
|---|---|
| Take-Up Clutch 1 P1CL | Synchronizing Roller Sensor PC2 |
| Take-Up Clutch 2 P2CL | Transport Clutch CL2 |
| Paper Empty Sensor 1 PPS1 | Take-Up Sensor S3 |
| Paper Standby Position Sensor S1 | LCC Main Board PWB-A: PF-106 |
| Separator Clutch BCL | Cassette Main Board PWB-A: PF-108/PF-110 |
| Registration Clutch RCL | Cassette Main Board PWB-A |
| Registration Sensor RSEN | Master Board PWB-A |




<Paper Take-Up/Transport Misfeed (PF-106) Troubleshooting Procedure>

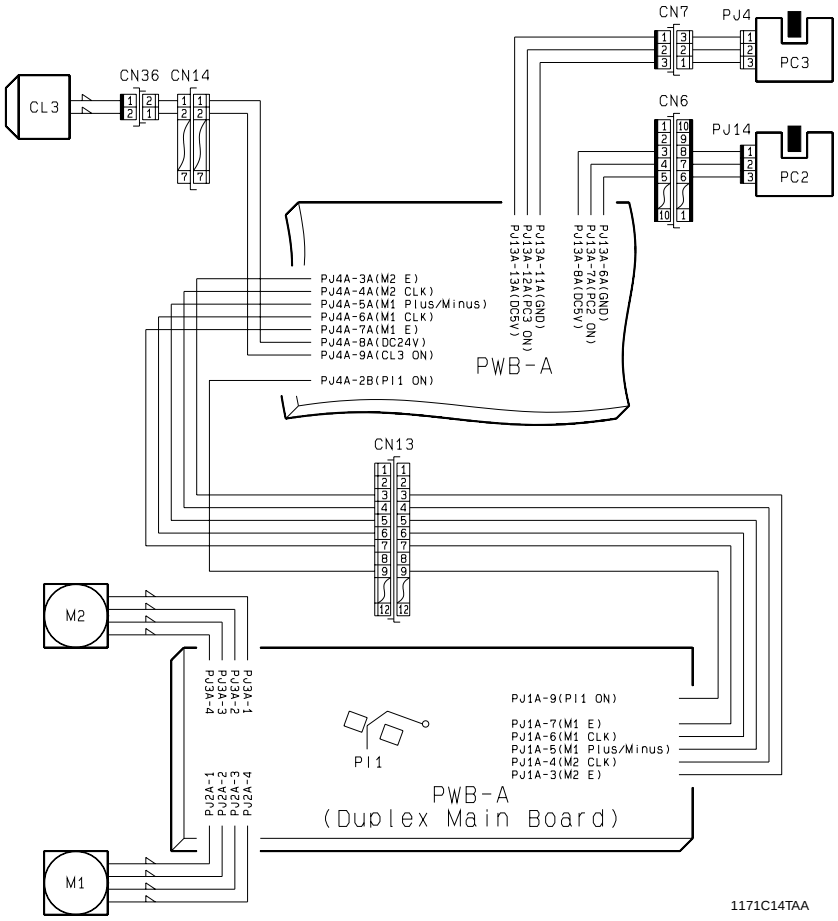
| Symptom | Step | Check Item | Result | Action |
|---|---|---|---|---|
| • Paper is not taken up at all.<br>• Paper is at a stop before the Paper Feed/ Separator Rolls. | 1 | Does the paper being used meet the product specifications? | NO | Instruct the user to use the paper that meets product specifications. |
| | 2 | Is the paper curled, wavy, or damp? | YES | Change the paper. Instruct the user on the storage of paper. |
| | 3 | Is the Paper Take-Up Roll deformed, worn, or dirty with paper dust? | YES | Clean or change the Paper Take-Up Roll. |

| Symptom | Step | Check Item | Result | Action |
|---|---|---|---|---|
| • Paper is not taken up at all.<br>• Paper is at a stop before the Paper Feed/ Separator Rolls. | 4 | Is PPS1 fully operational? Check the input data using I/O Check. | YES | Perform steps 6 and onward. |
| | 5 | Does the voltage across CN3A-2 on PWB-A (PF-106) and GND change from LOW to HIGH when PPS1 is blocked? | YES | Change PWB-A (PF-106), PWB-A (PF-108/PF-110), or PWB-A (Cassette Main Board), in that order. |
| | | | NO | Change PPS1. |
| | 6 | Is paper fed up to S1 when paper is loaded in Lift 2 only and the drawer is slid into the copier? | YES | Perform steps 8 and onward. |
| | 7 | Check P2CL for operation.<br>Does the voltage across CN7A-6 on PWB-A (PF-106) and GND change from DC24V to DC0V when step 6 is performed again? | YES | Check various parts for possible overload and, if they are okay, change P2CL. |
| | | | NO | Change PWB-A (PF-106), PWB-A (PF-108/PF-110), PWB-A (Cassette Main Board), or PWB-A, in that order. |
| | 8 | Check P1CL for operation.<br>Does the voltage across CN7A-8 on PWB-A (PF-106) and GND change from DC24V to DC0V when step 6 is performed again? | NO | Change PWB-A (PF-106), PWB-A (PF-108/PF-110), PWB-A (Cassette Main Board), or PWB-A, in that order. |
| | 9 | Is S1 fully operational? Check the input data using I/O Check.<br>Does the "S1S" input signal change from 0 to 1 when the drawer loaded with paper is slid into the copier? | YES | Perform steps 11 and onward. |
| | 10 | Does the voltage across CN3A-5 on PWB-A (PF-106) and GND change from LOW to HIGH when step 9 is performed again? | YES | Change PWB-A (PF-106), PWB-A (PF-108/PF-110), or PWB-A (Cassette Main Board), in that order. |
| | | | NO | Change S1. |
| | 11 | Is the Paper Feed Roll or Separator Roll deformed, worn, or dirty with paper dust? | YES | Clean or change the Paper Feed Roll or Separator Roll. |
| | 12 | Check BCL for operation.<br>Does the voltage across CN7A-2 on PWB-A (PF-106) and GND change from DC24V to DC0V when the Start key is pressed? | YES | Check various parts for possible overload and, if they are okay, change P1CL or BCL. |
| | | | NO | Change PWB-A (PF-106), PWB-A (PF-108/PF-110), PWB-A (Cassette Main Board), or PWB-A, in that order. |

| Symptom | Step | Check Item | Result | Action |
|---|---|---|---|---|
| • Paper is at a stop at the vertical transport section.<br>• Paper is at a stop near the Synchronizing Rollers. | 1 | Is the Vertical Transport Roller or Roll deformed, worn, or dirty with paper dust? | YES | Clean or change the Vertical Transport Roller or Roll. |
| | 2 | Is RSEN fully operational? Check the input data using I/O Check. | YES | Check step 4 and onward. |
| | 3 | Does the voltage across CN4A-2 on PWB-A (PF-106) and GND change from LOW to HIGH when RSEN is blocked? | YES | Change PWB-A (PF-106), PWB-A (PF-108/PF-110), or PWB-A (Cassette Main Board), in that order. |
| | | | NO | Change RSEN. |
| | 4 | Check RCL for operation. Does the voltage across CN7A-4 on PWB-A (PF-106) and GND change from DC24V to DC0V when the Start key is pressed? | NO | Change PWB-A (PF-106), PWB-A (PF-108/PF-110), PWB-A (Cassette Main Board), or PWB-A, in that order. |
| | 5 | Check CL2 for operation. Does the voltage across CN9-1 on PWB-A and GND change from DC24V to DC0V when the Start key is pressed? | NO | Change PWB-A. |
| | 6 | ✻ If the 3rd Drawer is PF-106<br>Is PC2 fully operational? Check the input data using I/O Check. | YES | Check various parts for possible overload and, if they are okay, change RCL, CL2, or PWB-A, in that order. |
| | | | NO | Check the PC2 actuator for operation and, if it is intact, change PC2. |
| | 7 | ✻ If the 4th Drawer is PF-106<br>Is S3 fully operational? Check the input data using I/O Check. | YES | Check various parts for possible overload and, if they are okay, change RCL, CL2, or PWB-A, in that order. |
| | 8 | Does the voltage across PJ3A-2B on PWB-A (PF-108/PF-110) and GND change to DC0V when S3 is blocked and to DC5V when S3 is unblocked? | YES | Change PWB-A (PF-108/PF-110) or PWB-A (Cassette Main Board). |
| | | | NO | Check the S3 actuator for operation and, if it is intact, change S3. |

**(6) Duplex Turnover/Take-Up Misfeed**

| Relevant Electrical Parts | |
|---|---|
| Paper Exit Sensor PC3 | Duplex Unit Transport Motor M2 |
| Duplex Unit Transport Sensor PI1 | Manual Feed Paper Take-Up Clutch CL3 |
| Synchronizing Roller Sensor PC2 | Master Board PWB-A |
| Switchback Motor M1 | Duplex Main Board PWB-A |



<Duplex Turnover/Take-Up Misfeed Troubleshooting Procedure>

| Symptom | Step | Check Item | Result | Action |
|---|---|---|---|---|
| Paper is at a stop near the exit section. | 1 | Is the Paper Exit Roller deformed, worn, or dirty with paper dust? | YES | Clean or change the Paper Exit Roller. |
| | 2 | Is PC3 fully operational? Check the input data using I/O Check. | NO | Check the PC3 actuator for operation and, if it is intact, change PC3. |
| | 3 | Check M1 for operation. Does the voltage across PJ1A-7 on PWB-A (Duplex Main Board) and GND change from DC5V to DC0V during a 2-sided copy cycle? | YES | Check gears for proper engagement. |
| | | | NO | Change PWB-A. |
| | 4 | Does the voltage across PJ1A-5 on PWB-A (Duplex Main Board) and GND change from DC5V to DC0V during a 2-sided copy cycle? | YES | Check various parts for possible overload and, if they are okay, change M1 or PWB-A (Duplex Main Board). |
| | | | NO | Change PWB-A. |
| Paper is at a stop inside the Duplex Unit. | 1 | Is the Duplex Unit Transport Roller or Roll deformed, worn, or dirty with paper dust? | YES | Clean or change the Duplex Unit Transport Roller or Roll. |
| | 2 | Is a torn piece of paper present on the paper path surface? | YES | Remove the torn piece of paper. |
| | 3 | Is the Manual Feed Take-Up Roller or Roll deformed, worn, or dirty with paper dust? | YES | Clean or change the Manual Feed Take-Up Roller or Roll. |
| | 4 | Check M2 for operation. Does the voltage across PJ1A-3 on PWB-A (Duplex Main Board) and GND change from DC5V to DC0V during a 2-sided copy cycle? | YES | Check gears for proper engagement. |
| | | | NO | Change PWB-A. |
| | 5 | Is PI1 fully operational? Check the input data using I/O Check. | NO | Check the PI1 actuator for operation and, if it is intact, change PWB-A (Duplex Main Board). |
| | 6 | Check CL3 for operation. Does the voltage across CN14-2 and GND change from DC24V to DC0V when paper is taken up from the Duplex Unit? | YES | Check various parts for possible overload and, if they are okay, change CL3 or M2. |
| | | | NO | Change PWB-A. |
| Paper is at a stop near the Synchronizing Rollers. | 1 | Is PC2 fully operational? Check the input data using I/O Check. | YES | Check various parts for possible overload and, if they are okay, change PWB-A. |
| | | | NO | Check the PC2 actuator for operation and, if it is intact, change PC2. |

# 4 MALFUNCTION

The copier CPU has a function that self-diagnoses the copier conditions. On detection of a malfunction, the corresponding code representing a particular malfunction name, location, and details as listed below is displayed on the Touch Panel together with a Tech. Rep. call message.

- Perform the following steps to reset the malfunction.

**Malfunction Resetting Procedure**

- Turn OFF, then ON the Power Switch or open and close the Side Cover for all malfunctions except fusing-related ones (C05✻✻).
- Use "Trouble Reset" of the "Initial" screen to reset all malfunctions including fusing-related ones (C05✻✻).

## 4-1. Detection Timing by Malfunction Code

| Code | Description | Detection Timing |
|---|---|---|
| C0000 | Main Motor M2 malfunction | The Lock signal remains HIGH for a continuous 1-sec. period or more while M2 remains energized. |
| C0010 | I/C Motor M1 malfunction | The Lock signal remains HIGH for a continuous 1-sec. period or more while M1 remains energized. |
| C0045 | Fusing Cooling Fan Motor M3 malfunction | The Lock signal remains HIGH or LOW for a continuous 1-sec. period or more while M3 remains energized. |
| C004C | Ozone Fan Motor M8 malfunction | The Lock signal remains HIGH or LOW for a continuous 1-sec. period or more while M8 remains energized. |
| C004E | Power Unit Cooling Fan Motor M4 | The Lock signal (analog input voltage) remains 0.4V or less for a continuous 0.5-sec. period or more while M4 remains energized. |
| C0070 | Main Hopper Toner Replenishing Motor M6 malfunction | • Toner Bottle Home Position Sensor PC10 remains blocked (L) for a continuous 2-sec. period or more while M6 remains energized.<br>• PC10 remains unblocked (H) for a continuous 6-sec. period or more while M6 remains energized. |
| C0050 | Warming-up failure | The temperature of the Fusing Rollers do not reach the required level even after the lapse of a given period of time during a warming-up cycle.<br>• From room temperature to 100°C: Within 65 sec.<br>• From 100°C to 140°C: Within 25 sec.<br>• From 140°C to 170°C: Within 20 sec.<br>• From 170°C to the completion of warming-up: Within 22 sec. |
| C0510 | Abnormally low fusing temperature | • The fusing temperature remains 130°C or less for a continuous 0.1-sec. period or more during the standby state or printing.<br>• The fusing temperature remains 105°C or less for a continuous 2-min. period or more during the low-temperature standby state. |
| C0520 | Abnormally high fusing temperature | The fusing temperature remains 230°C or more for a continuous 0.1-sec. period or more. |

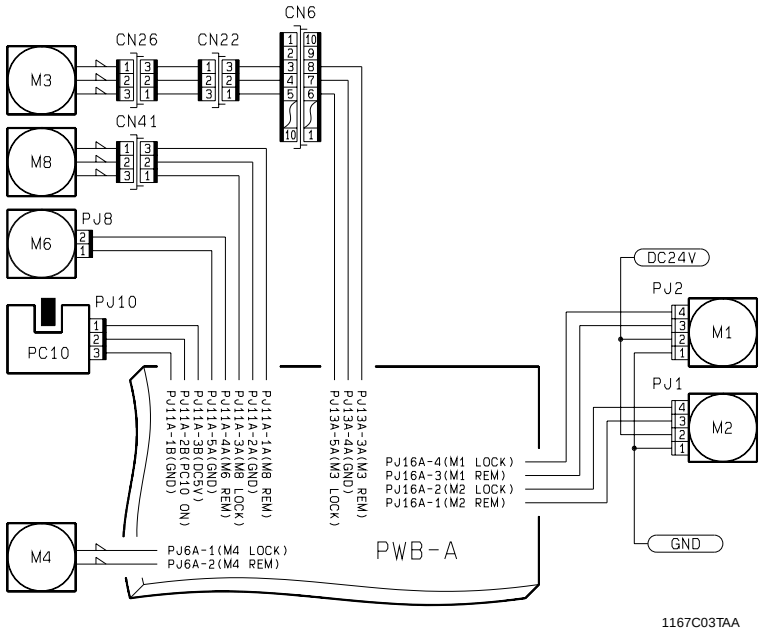
| Code | Description | Detection Timing |
|---|---|---|
| C0650 | Faulty Scanner Home Position Sensor 1 PC12 | <The Power Switch is turned ON, Original Cover lowered, or Start key pressed when the Scanner is at its home position><br>• PC12 is not unblocked (H) even when the Scanner moves 10 mm to the left.<br>• PC12 is not blocked (L) even when the Scanner moves 4 mm to the right after PC12 has been unblocked (H).<br><The Power Switch is turned ON, Original Cover lowered, or Start key pressed when the Scanner is at any position other than home><br>• PC12 is not blocked (L) even when the Scanner moves 469.5 mm to the right. |
| C0651 | Faulty Scanner Home Position Sensor 2 PC13 | When the Start key is pressed with a document loaded in the Document Feed Tray of AF-7, PC13 is not blocked (L) even when the Scanner moves 463 mm to the left after PC12 has been unblocked (H). |
| C0990 | LCC Lift-Up Motor EMOT malfunction (PF-106) | ✻ See option service manual. |
| C0991 | Lift 1 ascent motion failure (PF-106) | |
| C0995 | LCC Transport Motor HMOT malfunction (PF-106) | |
| C0999 | Lift 2 ascent motion failure (PF-106) | |
| C099D | Communications error (PF-106) | |
| C0B00 | Transport Motor M1 drive malfunction (FN-100/FN-500) | |
| C0B0F | Paper Entrance Switching Motor M1 drive malfunction (FN-100/FN-500) | |
| C0B30 | CD Aligning Motor M4 drive malfunction (FN-100/FN-500) | |
| C0B38 | Shift Motor M5 drive malfunction (FN-100/FN-500) | |
| C0B4D | Paper Holding Tray Motor M10 drive malfunction (FN-100/FN-500) | |
| C0B4E | Finisher Tray Motor M8 drive malfunction (FN-100/FN-500) | |
| C0B50 | Stapling Motor drive malfunction (FN-100/FN-500) | |
| C0BA0 | Elevator Motor M9 drive malfunction (FN-100/FN-500) | |
| C0F32 | Faulty ATDC Sensor E1 | The value of data read by E1 is faulty. [E1 reading is 7% or less (3.92V or more) or 19% or more (1.41V or less).] |

| Code | Description | Detection Timing |
|---|---|---|
| C0F33 | ATDC adjustment failure | • In an F8 (ATDC control voltage automatic adjustment) operation, the adjustment of ATDC control voltage is not completed within 1 min. after E1 sampling.<br>• In an F8 operation, the control voltage falls outside the range of 5.39V to 8.15V. |
| C1038 | Engine connection error | • The system fails in checking initial engine connection when Power Switch S1 is turned ON.<br>• The system succeeded in checking initial connection when S1 was turned ON; then it fails in rechecking initial connection through the execution of a software reset when a communications error occurs during operation. |
| C1300 | Polygon Motor M10 malfunction | <Resolution selection failure detection><br>• The Lock signal is not detected for a given period of time after the resolution has been selected. (The Lock signal is not, however, detected for 1 sec. after the start.)<br><Faulty Lock signal detection><br>• No Lock signals are detected for the 1-sec. period which starts 1 sec. after the first Lock.<br>✻ First Lock: The first Lock signal following 1 sec. after the selection of start or half speed.<br><Out-of-timing Lock detection><br>• The Lock signal is not detected for a continuous 0.5-sec. period while M10 is in the stabilized turning state (after a Lock has been detected).<br><Abnormal Lock detection><br>• The Lock signal remains ON for a continuous 5-sec. period while M10 remains deenergized. |
| C133A | Communications error (G/A) | ——————————————————— |
| C133B | Communications error (option I/F) | ——————————————————— |
| C13C0 | I/C initialization failure | After failing to blow the imaging cartridge fuse 2 consecutive times, 3.6V or more is detected and the I/C is determined to be new. |
| C13D0 | Faulty EEPROM | No initial data is written in EEPROM. |
| C13F0 | HSYNC detection failure | • The SOS rising edge is not detected even after the lapse of 0.2 sec. after Polygon Motor M10 has started and laser output started.<br>• No SOS rising edges are detected while VIA remains ON. |

## 4-2. Troubleshooting Procedures by Malfunction Code

**(1) C0000: M2 Malfunction**
**C0010: M1 Malfunction**
**C0045: M3 Malfunction**
**C004C: M8 Malfunction**
**C004E: M4 Malfunction**
**C0070: M6 Malfunction**

| Relevant Electrical Parts | |
|---|---|
| I/C Motor M1 | Main Hopper Toner Replenishing Motor M6 |
| Main Motor M2 | Ozone Fan Motor M8 |
| Fusing Cooling Fan Motor M3 | Toner Bottle Home Position Sensor PC10 |
| Power Unit Cooling Fan Motor M4 | Master Board PWB-A |



C0000

| Step | Check Item | Result | Action |
|---|---|---|---|
| 1 | Does M2 turn after the malfunction has been reset? | NO | Check various parts for possible overload. |
| 2 | Check M2 for operation.<br>Does the voltage across PJ1-3 of M2 and GND change from DC5V to DC0V after the malfunction has been reset? | NO | Change PWB-A. |
| 3 | Does the voltage across PJ1-4 of M2 and GND change from DC5V to DC0V after the malfunction has been reset? | YES | Change PWB-A. |
| | | NO | Change M2. |

C0010

| Step | Check Item | Result | Action |
|---|---|---|---|
| 1 | Does M1 turn after the malfunction has been reset? | NO | Check various parts for possible overload. |
| 2 | Check M1 for operation.<br>Does the voltage across PJ2-3 of M1 and GND change from DC5V to DC0V after the malfunction has been reset? | NO | Change PWB-A. |
| 3 | Does the voltage across PJ2-4 of M1 and GND change from DC5V to DC0V after the malfunction has been reset? | YES | Change PWB-A. |
| | | NO | Change M14. |

C0045

| Step | Check Item | Result | Action |
|---|---|---|---|
| 1 | Does M3 turn after the malfunction has been reset? | NO | Check the connector and harness between M3 and PWB-A. |
| 2 | Check M3 for operation.<br>Does the voltage across CN6-8 on the PWB-A side and GND change from DC0V to DC24V after the malfunction has been reset? | NO | Change PWB-A. |
| 3 | Does the “C0045” display persist even after M3 has been replaced with a new one? | YES | Change PWB-A. |

C004C

| Step | Check Item | Result | Action |
|---|---|---|---|
| 1 | Does M8 turn after the malfunction has been reset? | NO | Check various parts for possible overload. |
| 2 | Check M8 for operation.<br>Does the voltage across CN41-3 on the PWB-A side and GND change from DC0V to DC24V after the malfunction has been reset? | NO | Change PWB-A. |
| 3 | Does the “C004C” display persist even after M8 has been replaced with a new one? | YES | Change PWB-A. |

C004E

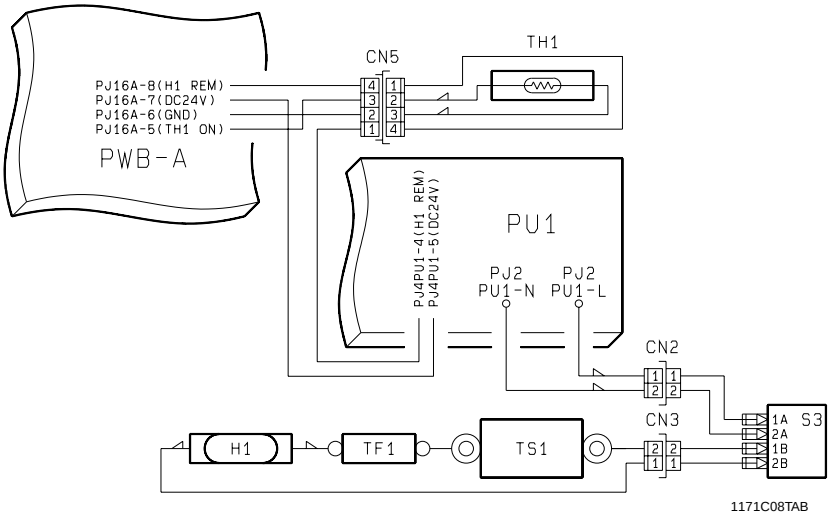
| Step | Check Item | Result | Action |
|---|---|---|---|
| 1 | Does M4 turn after the malfunction has been reset? | YES | Change PWB-A. |
| 2 | Does the “C004E” display persist even after M4 has been replaced with a new one? | YES | Change PWB-A. |

C0070

| Step | Check Item | Result | Action |
|---|---|---|---|
| 1 | After the malfunction has been reset, remove the Rear Lower Cover and block Toner Bottle Cover Sensor PC11. Then, unlocking the Toner Bottle Lock Lever, turn the Toner Bottle a half turn by hand. Does the Toner Bottle turn when PC11 is unblocked (H) with the Toner Bottle Lock Lever kept unlocked? | YES | Perform step 3. |
| | | NO | Check various parts for possible overload. |
| 2 | Does the voltage across PJ8-2 of M6 and GND change from DC0V to DC24V when step 1 is performed again? | YES | Change M6. |
| | | NO | Change PWB-A. |
| 3 | Is PC10 fully operational?<br>Check the input data using I/O Check. Does the input signal value for “Toner Bottle Set” change between “0” and “1” when the Toner Bottle is turned by hand? | YES | Change PWB-A. |
| | | NO | Change PC10. |

**(2) C0500: Warming-up Failure**
**C0510: Abnormally Low Fusing Temperature**
**C0520: Abnormally High Fusing Temperature**

| Relevant Electrical Parts | |
|---|---|
| Fusing Roller Heater Lamp H1 | Fusing Roller Heater Lamp Fuse TF1 |
| Fusing Roller Thermistor TH1 | Side Cover Interlock Switch 2 S3 |
| Fusing Roller Thermostat TS1 | Power Supply Unit 1 PU1 |
| | Master Board PWB-A |



C0500, C0510

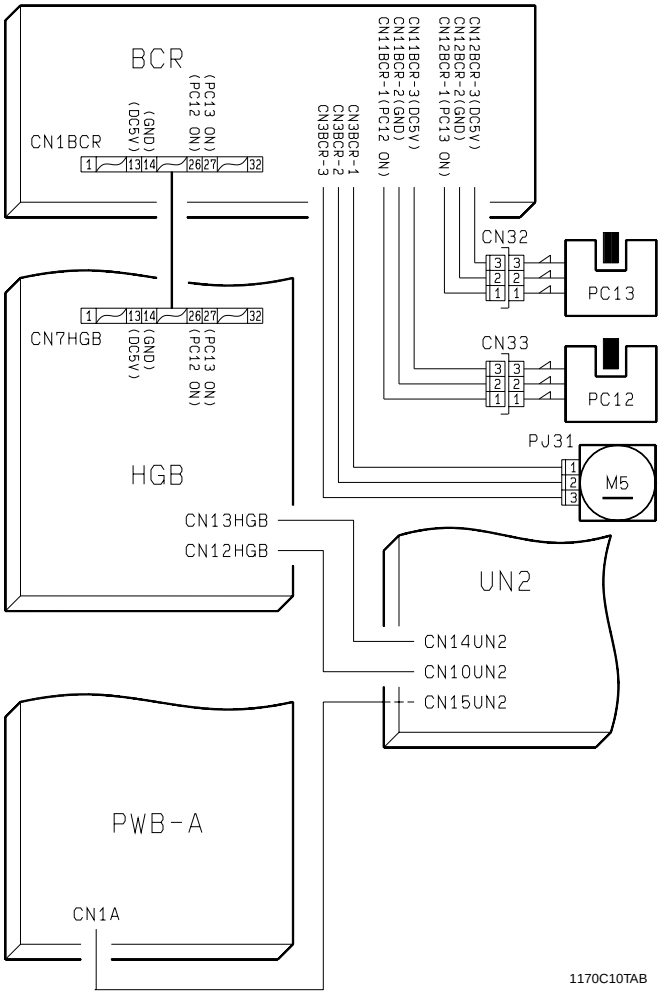
| Step | Check Item | Result | Action |
|---|---|---|---|
| 1 | Does H1 turn ON after the malfunction is reset? | YES | Check TH1 for contamination or installation. |
| 2 | Is there continuity across CN3-1 and 2 on the Fusing Unit end with CN3 (2P) disconnected? | NO | Check H1, TS1, and TF1 for continuity. |
| 3 | Is there continuity across 1A and 1B, and across 2A and 2B, of S3 when S3 is turned ON? | NO | Change S3. |
| 4 | Is the resistance of TH1 (across CN5-2 and 3 on the Fusing Unit end) infinity? | YES | Change TH1. |
| 5 | Is Fuse F2 on PU1 conducting? | YES | Change PU1 or PWB-A. |
| | | NO | Change the fuse. |

C0520

| Step | Check Item | Result | Action |
|---|---|---|---|
| 1 | Is TH1 installed properly? | NO | Install TH1 correctly. |
| 2 | Is TH1 dirty? | YES | Clean or change TH1. |
| 3 | Is the circuit across CN5-2 and 3 on the Fusing Unit end closed when CN5 (4P) is disconnected? | YES | Change TH1. |
| | | NO | Change PWB-A or PU1. |

**(3) C0650: Faulty PC12**
**C0651: Faulty PC13**

| Relevant Electrical Parts | |
|---|---|
| Scanner Home Position Sensor 1 PC12 | BCR Board BCR |
| Scanner Home Position Sensor 2 PC13 | HGB Board HGB |
| Scanner Motor M5 | MFB Board UN2 |
| Master Board PWB-A | |

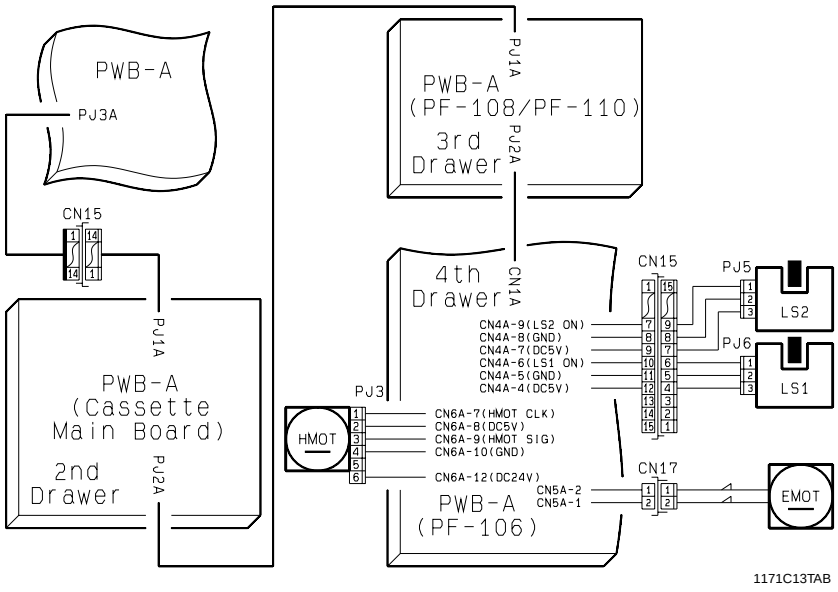


C0650, C0651

| Step | Check Item | Result | Action |
|---|---|---|---|
| 1 | Is M5 energized?<br>Select the following functions in this order: Tech. Rep. Mode → Movement Check → Scanner. Then, enter an appropriate value in “Absolute Position” or “Relative Position” and energize M5. | NO | Check various parts for possible overload and, if they are okay, change M5, BCR, HGB, UN2, or PWB-A, in that order. |
| 2 | Is “C0650” being displayed? | YES | Perform steps 3 and 4. |
| | | NO | Perform steps 5 and 6. |
| 3 | Does the voltage across CN11BCR-1 on BCR and GND change from DC0V to DC5V when step 1 is performed a second time and PC12 is unblocked? | NO | Change PC12. |
| 4 | Does the voltage across CN1BCR-26 on BCR and GND change from DC0V to DC5V when step 3 is performed a second time? | YES | Change HGB, UN2, or PWB-A, in that order. |
| | | NO | Change BCR. |
| 5 | Does the voltage across CN12BCR-1 on BCR and GND change from DC5V to DC0V when step 1 is performed a third time and PC13 is unblocked? | NO | Change PC13. |
| 6 | Does the voltage across CN1BCR-27 on BCR and GND change from DC0V to DC5V when step 5 is performed a second time? | YES | Change HGB, UN2, or PWB-A, in that order. |
| | | NO | Change BCR. |

**(4) C0990: EMOT Malfunction**
**C0991: Lift 1 Ascent Motion Failure**
**C0995: HMOT Malfunction**
**C0999: Lift 2 Ascent Motion Failure**
**C099D: Communications Error**

| Relevant Electrical Parts | |
|---|---|
| LCC Lift-Up Motor EMOT | LCC Main Board PWB-A: PF-106 |
| Lift-Up Sensor 1 LS1 | Cassette Main Board PWB-A: PF-108/PF-110 |
| Lift-Up Sensor 2 LS2 | Cassette Main Board PWB-A |
| LCC Transport Motor HMOT | Master Board PWB-A |



C0990

| Step | Check Item | Result | Action |
|---|---|---|---|
| 1 | Does “C0990” reappear even after EMOT has been replaced with a new one? | YES | Change PWB-A (PF-106), PWB-A (PF-108/PF-110), PWB-A (Cassette Main Board), or PWB-A, in that order. |

C0991

| Step | Check Item | Result | Action |
|---|---|---|---|
| 1 | Is LS1 fully operational? Check the input data using I/O Check. | YES | Perform step 3 and onward. |
| 2 | Does the voltage across CN4A-6 on PWB-A (PF-106) and GND change to DC5V when LS1 is blocked and to DC0V when LS1 is unblocked? | YES | Change PWB-A (PF-106), PWB-A (PF-108/PF-110), or PWB-A (Cassette Main Board), in that order. |
| | | NO | Change LS1. |
| 3 | Does EMOT turn when a drawer loaded with paper is slid into the copier? | YES | Check gears and couplings for proper engagement and, if they are okay, change PWB-A. |
| 4 | Does the voltage across CN5A-1 on PWB-A (PF-106) and GND change from DC0V to DC24V when step 3 is performed again? | YES | Check various parts for possible overload and, if they are okay, change EMOT. |
| | | NO | Change PWB-A (PF-106), PWB-A (PF-108/PF-110), PWB-A (Cassette Main Board), or PWB-A, in that order. |

C0995

| Step | Check Item | Result | Action |
|---|---|---|---|
| 1 | Does “C0995” reappear even after HMOT has been replaced with a new one? | YES | Change PWB-A (PF-106), PWB-A (PF-108/PF-110), PWB-A (Cassette Main Board), or PWB-A, in that order. |

C0999

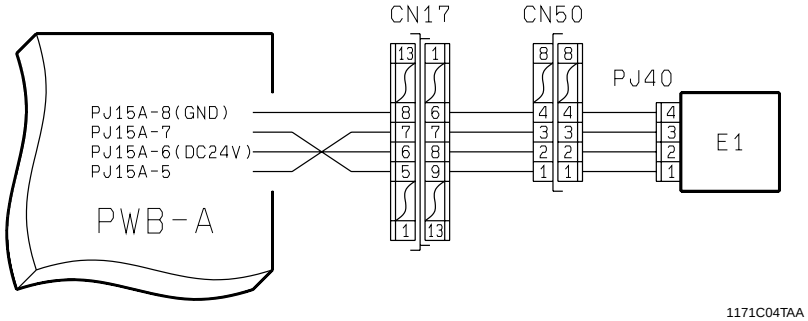
| Step | Check Item | Result | Action |
|---|---|---|---|
| 1 | Is LS2 fully operational? Check the input data using I/O Check. | YES | Perform step 3 and onward. |
| 2 | Does the voltage across CN4A-9 on PWB-A (PF-106) and GND change to DC5V when LS2 is blocked and to DC0V when LS2 is unblocked? | YES | Change PWB-A (PF-106), PWB-A (PF-108/PF-110), or PWB-A (Cassette Main Board), in that order. |
| | | NO | Change LS2. |
| 3 | Does EMOT turn when a drawer loaded with paper is slid into the copier? | YES | Check gears and couplings for proper engagement and, if they are okay, change PWB-A. |
| 4 | Does the voltage across CN5A-1 on PWB-A (PF-106) and GND change from DC0V to DC24V when step 3 is performed again? | YES | Check various parts for possible overload and, if they are okay, change EMOT. |
| | | NO | Change PWB-A (PF-106), PWB-A (PF-108/PF-110), PWB-A (Cassette Main Board), or PWB-A, in that order. |

C099D

| Step | Check Item | Result | Action |
|---|---|---|---|
| 1 | Does “C099D” reappear even after PWB-A (PF-106) has been replaced with a new one? | YES | Change PWB-A (PF-108/PF-110), PWB-A (Cassette Main Board), or PWB-A, in that order. |

**(5) C0F32: Faulty E1**
**C0F33: ATDC Adjustment Failure**

| Relevant Electrical Parts | |
|---|---|
| ATDC Sensor E1 | Master Board PWB-A |




C0F32, C0F33

| Step | Check Item | Result | Action |
|---|---|---|---|
| 1 | Are PJ40, CN50, CN17, and PWB-A PJ15A connected properly? | NO | Connect them properly. |
| 2 | Is the CN50 connection dirty? | YES | Clean. |
| 3 | Is “C0F32” or “C0F33” displayed even when an I/C with the same T/C as that of a new one has been installed? | NO | Change the I/C with a new one. |
| 4 | Is “C0F32” or “C0F33” displayed even when an I/C with the same T/C as that of a new one has been installed and an F8 operation run? (Be sure to record the ATDC control voltage setting value if an F8 operation is to be run.) | YES | Change PWB-A, install the old I/C, and return the ATDC control voltage setting to the value recorded. If “C0F32” or “C0F33” redisplayed, change the I/C with a new one. |
| | | NO | Change the I/C with a new one. |

**(6) C10✻✻ to C13✻✻**

- These malfunctions are concerned with faulty symptoms as they relate to software, hardware, and communications. For remedial actions, change the board, check for cable connections, and turn the Power Switch OFF and ON.

| Code | Action |
|---|---|
| C1038 | 1. Check the connection between PWB-A and UN2, reset the malfunction, and turn OFF and ON the Power Switch.<br>2. If the same malfunction persists, change PWB-A or UN2. |
| C1300 | 1. Reset the malfunction and turn OFF and ON the Power Switch.<br>2. If the same malfunction persists, check the harnesses and PJs between UN3, PH Unit, and PWB-A and, if they are intact, change UN3, PH Unit, or PWB-A, in that order. |
| C133A | 1. Reset the malfunction and turn OFF and ON the Power Switch.<br>2. If the same malfunction persists, check the connection between the copier PWB-A and A to E below:<br>A. 2nd Drawer paper source unit<br>B. 3rd Drawer paper source unit (PF-108/PF-110/PF-106)<br>C. 4th Drawer paper source unit (PF-108/PF-110/PF-106)<br>D. 5th Drawer paper source unit (PF-108/PF-110)<br>E. Job Tray (JS-200)<br>3. If the connection is made properly, unplug the connector between the copier and A to E and turn OFF and ON the Power Switch.<br>→If the malfunction code display persists, change the copier PWB-A.<br>→If the malfunction is no longer detected, connect the connectors sequentially and turn OFF and ON the Power Switch. When “C133A” is detected, check the connector of the corresponding paper source unit and, if it is intact, change the PWB-A of the unit. |
| C133B | 1. Reset the malfunction and turn OFF and ON the Power Switch.<br>2. If the same malfunction persists, check the connection between the copier PWB-A and Finisher PWB-A.<br>3. If the connection is made properly, unplug the connector between the copier and Finisher and turn OFF and ON the Power Switch.<br>→If the malfunction code display persists, change the copier PWB-A.<br>→If the malfunction is no longer detected, check the connector and, if it is intact, change the Finisher PWB-A. |
| C13C0 | 1. Reset the malfunction, turn OFF and ON the Power Switch, and reinstall the I/C.<br>2. If the malfunction is detected again, check the terminal block for the I/C fuse and HV1 and, if it is intact, change HV1 or PWB-A. |
| C13D0 | 1. Reset the malfunction, turn OFF and ON the Power Switch, and unplug the power cord and plug it back in.<br>2. If the malfunction is detected again, check the connection between IC3 on PWB-A and the EEPROM and, if it is good, change PWB-A.<br>3. If the malfunction is still detected, change the EEPROM.<br>✻ For the precautions to be observed when replacing the EEPROM, see DIS/REASSEMBLY, ADJUSTMENT. |
| C13F0 | 1. Reset the malfunction and turn OFF and ON the Power Switch.<br>2. If the same malfunction persists, check the harnesses and PJs between UN3, PH Unit, and PWB-A and, if they are intact, change UN3, PH Unit, or PWB-A, in that order. |

**(7) The Copier Does not Turn ON.**

| Relevant Electrical Parts | |
|---|---|
| Power Switch S1 | Master Board PWB-A |
| Side Cover Interlock Switch 1 S2 | Control Panel UN1 |
| Power Supply Unit 1 PU1 | MFB Board UN2 |
| Power Supply Unit 2 PU2 | |

| Symptom | Step | Check Item | Result | Action |
|---|---|---|---|---|
| Power does not turn ON. | 1 | Is there an AC power supply voltage across PJ1PU1-1 and 3 on PU1 when S1 is turned ON? | NO | Check S1, PU1 fuse, and power supply voltage. |
| | 2 | Is the voltage across PJ5PU1-10 and GND DC5V when S1 is turned ON? | YES | Check the fuse on PWB-A. |
| | | | NO | Change PU1. |
| | 3 | Is the voltage across PJ5PU1-4 and GND DC24V when S1 is turned ON? | NO | Change PU1. |
| | 4 | Is the voltage across PJ5PU1-3 and GND DC24V when S1 is turned ON? | NO | Change PU1. |
| | 5 | Does the voltage across the S2 connector (yellow) and GND change from DC0V to DC24V when S2 is turned ON? | NO | Check S2. |
| | 6 | Is the voltage across PJ7PU1-9 on PU1 and GND DC3.3V? | NO | Change PU1. |
| | 7 | Is the voltage across CN1PU2-1 on PU2 and GND DC24V? | NO | Change PU1. |
| | 8 | Is the voltage across CN28UN2-8 on UN2 and GND DC-12V? | NO | Change PU2. |
| | 9 | Is the voltage across CN28UN2-7 on UN2 and GND DC12V? | YES | Change PWB-A. |
| | | | NO | Change PU2. |
| The control panel indicates nothing. | 1 | Is DC24V being output from UN2 to UN1?<br>Disconnect CN1UN1 of UN1 and check to see if the voltage across CN1UN1-1 on the harness side and GND is DC24V. | NO | Change UN2. |
| | 2 | Is DC5V being output from UN2 to UN1?<br>Disconnect CN1UN1 of UN1 and check to see if the voltage across CN1UN1-28 on the harness side and GND, and across CN1UN1-29 and GND, is DC5V. | YES | Change UN1. |
| | | | NO | Change UN2. |

# 5 IMAGE FAILURE

## 5-1. Image Failure Troubleshooting

Image failures have many possible causes. For troubleshooting, it is necessary to determine whether a failure is attributable to:
1. A basic cause or any other cause
2. The input system (IR) or output system (engine).

In this chapter, troubleshooting is divided into “initial checks” and “troubleshooting procedures classified by image failures.” If an image failure has occurred, first make the initial checks, then proceed to the corresponding image failure troubleshooting procedure.

## 5-2. Initial Checks

1. Place of installation
- Is the source voltage normal? Does the voltage vary greatly?
- Is the copier installed in a hot, humid place where temperature varies sharply?
- Is the copier installed in a dusty place?
- Is the copier subjected to direct sunlight?
- Is the copier level?

2. Copy paper
- Is the recommended paper used?
- Is the paper damp?
- Does the paper size set in the paper source match the size of the paper loaded in it?

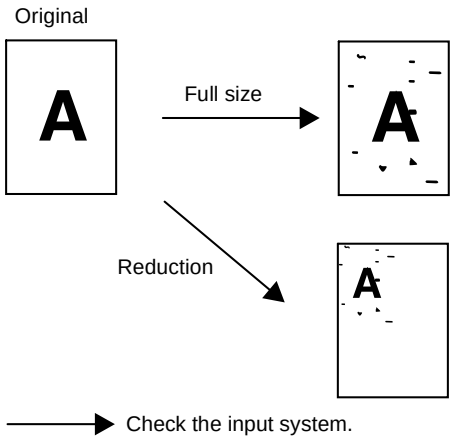
3. Original
- Is the original written in light pencil?
  → Use the test chart to check the image.
- Is the original transparent, or are transparencies being used?
  → Place a blank sheet of paper over the original and make a copy.
- Is the Original Glass dirty or scratched?
  → Clean a dirty glass, or replace a scratched one.

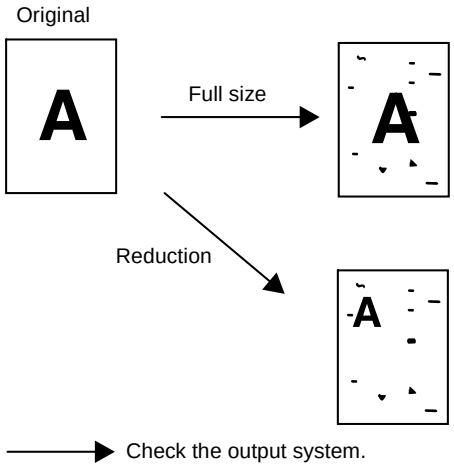
4. Adjust data and Level History data
- Do the values set for “Adjust” and “Level History” fall within the specified range?

5. PM parts (supplies)
- Have the PM parts (supplies), such as the PC Drum, Cleaning Blade, and other parts that affect image quality, reached the end of their cleaning or replacement cycle?
- Are two or more imaging cartridges being used alternately?

6. Adjustment items (registration, focus, etc.)
- Among the adjustment items given in DIS/REASSEMBLY, ADJUSTMENT, is there any adjustment that may remedy the image failure?

7. Input system (IR) or output system (engine)?
- Run “F12” which can be selected as follows: Tech. Rep. Mode → Function.
- If the test pattern output has the same problem as the copy image:
  → Check the output system.
- If the test pattern output is normal:
  → Check the input system.
- Make a copy at a different zoom ratio.

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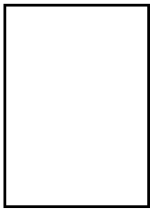
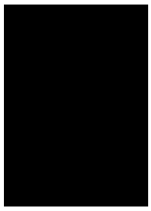
## 5-3. Troubleshooting Procedures by Image Failure

<Image Failure Samples>

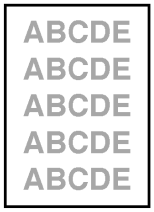
1. Blank copy



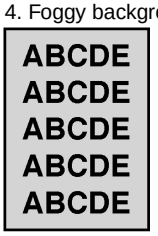
2. Black copy



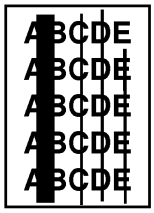
3. Low image density



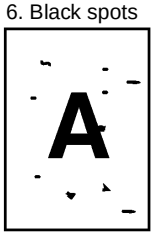

4. Foggy background



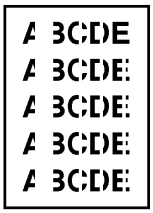

5. Black streaks or bands



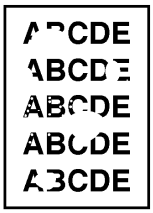
6. Black spots



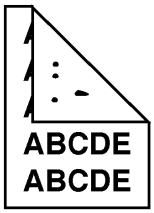

7. Blank streaks or bands

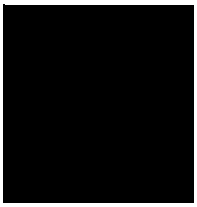


8. Void areas

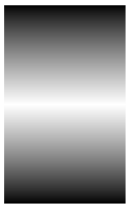


9. Smear on back

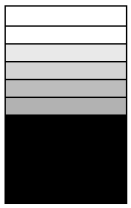


10. Uneven image density



11. Gradation reproduction failure



12. Rough image


13. Periodically uneven image

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**(1) Blank Copy**

| Section | Step | Check Item | Result | Action |
|---|---|---|---|---|
| Engine | 1 | Is toner empty? | YES | Check Sub Hopper Toner Empty Switch S4 and change the Toner Bottle. |
| | 2 | Is the drive transmission mechanism to the Developing Unit in good condition? | NO | Check and change as necessary. |
| | 3 | Is the image transfer current terminal intact? | NO | Check and change as necessary. |
| | 4 | Does the laser shutter (the one located on the laser beam path between the PH Unit and PC Drum) open and close properly? | NO | Adjust so that the shutter opens and closes properly. |
| | 5 | Does the I/C Shutter open and close properly? | YES | Change HV1, PH Unit, or PWB-A, in that order. |
| | | | NO | Adjust so that the shutter opens and closes properly. |
| IR | 1 | Is the Scanner drive transmission mechanism in good condition? | NO | Check and change as necessary. |
| | 2 | Do the connections from CCD to HGB remain intact? | NO | Reconnect. |
| | 3 | Do the connections from HGB to UN2 remain intact? | YES | Change CCD, HGB, or UN2, in that order. |
| | | | NO | Reconnect. |

**(2) Black Copy**

| Section | Step | Check Item | Result | Action |
|---|---|---|---|---|
| Engine | 1 | Is the PC Drum charge voltage terminal in good condition? | NO | Check and change as necessary. |
| | 2 | Is the grid voltage terminal in good condition? | NO | Check and change as necessary. |
| | 3 | Is the developing bias terminal in good condition? | NO | Check and change as necessary. |
| | 4 | Does a black copy persist even after the I/C has been replaced with a new one? | YES | Change HV1 or PWB-A. |
| IR | 1 | Does the Exposure Lamp turn ON when "ON" is selected for "Lighting Exposure Lamp"? "Lighting Exposure Lamp" can be selected as follows: Tech. Rep. Mode → Movement Check → Scanner. | YES | Perform steps 4 and onward. |
| | | | NO | Check connectors and harnesses and perform steps 2 and 3. |
| | 2 | Does the voltage across CN13BCR-1 on BCR and GND change from DC24V to DC0V when step 1 is performed again? | NO | Change BCR, HGB, or UN2, in that order. |
| | 3 | Is an AC voltage output from INV to Exposure Lamp when step 1 is performed again? | YES | Change LA2. |
| | | | NO | Change INV. |
| | 4 | Are the mirrors and lens installed properly? | NO | Install them properly. |
| | 5 | Are the mirrors and lens dirty? | YES | Clean or change. |

**(3) Low Image Density**

| Section | Step | Check Item | Result | Action |
|---|---|---|---|---|
| Engine | 1 | Does the image get better when a copy is made with new paper loaded? | YES | Change the paper. Instruct the user on the storage of paper. |
| | 2 | Is toner empty? | YES | Check Sub Hopper Toner Empty Switch S4 and change the Toner Bottle. |
| | 3 | Is the image transfer current terminal intact? | NO | Check and change as necessary. |
| | 4 | Is the developing bias terminal intact? | NO | Check and change as necessary. |
| | 5 | Does the image density remain low even after the I/C has been replaced with a new one? | NO | This completes the procedure. |
| | 6 | Does the image density become higher when the “Image Density” value is changed toward the plus side? “Image Density” can be selected as follows: Tech. Rep. Mode → Tech. Rep. Choice → Printer. | YES | This completes the procedure. |
| | 7 | Does the image density become higher when the “VG Adjust” value is changed toward the plus side? “VG Adjust” can be selected as follows: Tech. Rep. Mode → Tech. Rep. Choice → Printer. | YES | This completes the procedure. |
| | | | NO | Change HV1, HGB, or UN2, in that order. |
| IR | 1 | Do the connections from CCD to HGB remain intact? | NO | Reconnect. |
| | 2 | Do the connections from HGB to UN2 remain intact? | YES | Change CCD, HGB, or UN2, in that order. |
| | | | NO | Reconnect. |

**(4) Foggy Background**

| Section | Step | Check Item | Result | Action |
|---|---|---|---|---|
| ___ | 1 | Is sunlight or any other extraneous light entering the copier? | YES | Protect the copier from extraneous light. |
| Engine | 1 | Is the PC Drum dirty with foreign matter? | YES | Clean the PC Drum. |
| | 2 | Is the PC Drum charge voltage terminal in good condition? | NO | Check and change as necessary. |
| | 3 | Is the grid voltage terminal in good condition? | NO | Check and change as necessary. |
| | 4 | Is the developing bias terminal in good condition? | NO | Check and change as necessary. |
| | 5 | Is the Charge Neutralizing Sheet voltage terminal in good condition? | NO | Check and change as necessary. |
| | 6 | Is Eraser Lamp LA1 dirty? | YES | Clean. |
| | 7 | Does foggy background persist even after the I/C has been replaced with a new one? | NO | This completes the procedure. |
| | 8 | Does foggy background persist when the “Image Density” value is changed toward the minus side? “Image Density” can be selected as follows: Tech. Rep. Mode → Tech. Rep. Choice → Printer. | NO | This completes the procedure. |
| | 9 | Does foggy background persist when the “VG Adjust” value is changed toward the minus side? “VG Adjust” can be selected as follows: Tech. Rep. Mode → Tech. Rep. Choice → Printer. | YES | Change HV1, PH Unit, or PWB-A, in that order. |
| | | | NO | This completes the procedure. |
| IR | 1 | Are the mirrors and lens dirty? | YES | Clean or change. |
| | 2 | Is the Exposure Lamp dirty or deteriorated? | YES | Clean or change. |
| | 3 | Do the connections between the Exposure Lamp and INV remain intact? | NO | Reconnect. |
| | 4 | Do the connections from INV to BCR remain intact? | NO | Reconnect. |
| | 5 | Do the connections from BCR to HGB remain intact? | NO | Reconnect. |
| | 6 | Do the connections from HGB to UN2 remain intact? | YES | Change INV, BCR, HGB, or UN2, in that order. |
| | | | NO | Reconnect. |

**(5) Black Streaks or Bands**

| Section | Step | Check Item | Result | Action |
|---|---|---|---|---|
| Engine | 1 | Is the PC Drum dirty? | YES | Clean the PC Drum. |
| | 2 | Has toner spilled from the I/C inside of the copier? | YES | Clean the interior and change I/C. |
| | 3 | Is the PC Drum charge voltage terminal in good condition? | NO | Check and change as necessary. |
| | 4 | Is the grid voltage terminal in good condition? | NO | Check and change as necessary. |
| | 5 | Are the Fusing Rollers dirty with foreign matter? | YES | Clean or change the Fusing Rollers. |
| | | | NO | Change I/C. |
| IR | 1 | Are the mirrors, lens, and Original Glass dirty with foreign matter? | YES | Clean the mirrors, lens, and Original Glass. |
| | 2 | Do the connections from CCD to HGB remain intact? | NO | Reconnect. |
| | 3 | Do the connections from HGB to UN2 remain intact? | YES | Change CCD, HGB, or UN2, in that order. |
| | | | NO | Reconnect. |

**(6) Black Spots**

| Section | Step | Check Item | Result | Action |
|---|---|---|---|---|
| Engine | 1 | Is the PC Drum dirty? | YES | Clean the PC Drum. |
| | 2 | Has toner spilled from the I/C inside of the copier? | YES | Clean the interior and change I/C. |
| | 3 | Is the PC Drum charge voltage terminal in good condition? | NO | Check and change as necessary. |
| | 4 | Is the grid voltage terminal in good condition? | NO | Check and change as necessary. |
| | 5 | Are the Fusing Rollers dirty with foreign matter? | YES | Clean or change the Fusing Rollers. |
| | | | NO | Change I/C. |
| IR | 1 | Are the mirrors, lens, and Original Glass dirty with foreign matter? | YES | Clean the mirrors, lens, and Original Glass. |
| | 2 | Do the connections from CCD to HGB remain intact? | NO | Reconnect. |
| | 3 | Do the connections from HGB to UN2 remain intact? | YES | Change CCD, HGB, or UN2, in that order. |
| | | | NO | Reconnect. |

**(7) Blank Streaks or Bands**

| Section | Step | Check Item | Result | Action |
|---|---|---|---|---|
| Engine | 1 | Is the PC Drum dirty with foreign matter? | YES | Clean the PC Drum. |
| | 2 | Is the image transfer current terminal intact? | YES | Check and change as necessary. |
| | 3 | Is the Image Transfer Roller dented or scratched? | YES | Change the Image Transfer Roller. |
| | 4 | Are the Fusing Rollers scratched or dirty? | YES | Clean or change the Fusing Rollers. |
| | 5 | Is the PH Unit window glass dirty? | YES | Clean the window glass. |
| | 6 | Is the light path between PH and PC dirty with dust? | YES | Remove dust. |
| | | | NO | Change the I/C. |
| IR | 1 | Is the Shading Sheet on the Original Glass dirty? | YES | Clean or change. |
| | 2 | Do the connections from CCD to HGB remain intact? | NO | Reconnect. |
| | 3 | Do the connections from HGB to UN2 remain intact? | YES | Change CCD, HGB, or UN2, in that order. |
| | | | NO | Reconnect. |

**(8) Void Areas**

| Section | Step | Check Item | Result | Action |
|---|---|---|---|---|
| Engine | 1 | Does the image get better when a copy is made with new paper loaded? | YES | Change the paper. Instruct the user on the storage of paper. |
| | 2 | Is the Image Transfer Roller installed correctly? | NO | Install correctly. |
| | 3 | Is the Image Transfer Roller dented or scratched? | YES | Change the Image Transfer Roller. |
| | 4 | Is the image transfer current terminal intact? | NO | Check and change as necessary. |
| | 5 | Are the Fusing Rollers scratched or deformed? | YES | Change the Fusing Rollers. |
| | | | NO | Change the I/C. |
| IR | 1 | Is the Original Glass dirty? | YES | Clean or change. |
| | 2 | Do the connections from CCD to HGB remain intact? | NO | Reconnect. |
| | 3 | Do the connections from HGB to UN2 remain intact? | YES | Change CCD, HGB, or UN2, in that order. |
| | | | NO | Reconnect. |

**(9) Smear on Back**

| Section | Step | Check Item | Result | Action |
|---|---|---|---|---|
| Engine | 1 | Is the Image Transfer Roller dirty? | YES | Clean or change. |
| | 2 | Has toner spilled from the I/C inside of the copier? | YES | Clean the interior and change I/C. |
| | 3 | Are the Fusing Rollers dirty? | YES | Clean or change the Fusing Rollers. |

**(10) Uneven Image Density**

| Section | Step | Check Item | Result | Action |
|---|---|---|---|---|
| Engine | 1 | Is the Image Transfer Roller dirty or deteriorated? | YES | Clean or change the Image Transfer Roller. |
| | 2 | Does the image get better when a copy is made with new paper loaded? | YES | Change the paper. Instruct the user on the storage of paper. |
| | | | NO | Change the I/C or PWB-A. |
| IR | 1 | Are the Original Glass, mirrors, and lens dirty with foreign matter? | YES | Clean the Original Glass, mirrors, and lens. |
| | 2 | Is the Shading Sheet on the Original Glass dirty? | YES | Clean or change. |
| | 3 | Is the Exposure Lamp dirty or deteriorated? | YES | Clean or change. |
| | 4 | Do the connections from CCD to HGB remain intact? | NO | Reconnect. |
| | 5 | Do the connections from HGB to UN2 remain intact? | YES | Change CCD, HGB, or UN2, in that order. |
| | | | NO | Reconnect. |

**(11) Gradation Reproduction Failure**

| Section | Step | Check Item | Result | Action |
|---|---|---|---|---|
| Engine | 1 | Does the image get better when a copy is made with new paper loaded? | YES | Change the paper. Instruct the user on the storage of paper. |
| | | | NO | Change PWB-A. |
| IR | 1 | Is the Shading Sheet dirty? | YES | Clean or change. |
| | 2 | Is the Original Glass dirty? | YES | Clean or change. |
| | 3 | Do the connections from CCD to HGB remain intact? | NO | Reconnect. |
| | 4 | Do the connections from HGB to UN2 remain intact? | YES | Change CCD, HGB, or UN2, in that order. |
| | | | NO | Reconnect. |

**(12) Rough Image**

| Section | Step | Check Item | Result | Action |
|---|---|---|---|---|
| Engine | 1 | Is the Image Transfer Roller dirty? | YES | Clean or change. |
| | 2 | Is the image transfer current terminal intact? | YES | Change HV1, I/C, PH Unit, or PWB-A, in that order. |
| | | | NO | Check and change as necessary. |
| IR | 1 | Do the connections from CCD to HGB remain intact? | NO | Reconnect. |
| | 2 | Do the connections from HGB to UN2 remain intact? | YES | Change CCD, HGB, or UN2, in that order. |
| | | | NO | Reconnect. |

**(13) Periodically Uneven Image**

| Section | Step | Check Item | Result | Action |
|---|---|---|---|---|
| Engine | 1 | Is the Developing Unit drive gear cracked or dirty with foreign matter? | YES | Clean or change. |
| | 2 | Is the PC Drum drive gear cracked or dirty with foreign matter? | YES | Clean or change. |
| | 3 | Is the Synchronizing Roller drive gear cracked or dirty with foreign matter? | YES | Clean or change. |
| | 4 | Is the Fusing Unit drive gear cracked or dirty with foreign matter? | YES | Clean or change. |
| | 5 | Is the PH Assy secured properly? | YES | Change the I/C or PWB-A. |
| | | | NO | Secure properly. |
| IR | 1 | Is the Scanner Motor drive gear cracked or dirty with foreign matter? | YES | Clean or change. |
| | 2 | Is the Scanner Motor secured properly? | NO | Secure properly. |
| | 3 | Is the Scanner secured properly? | NO | Secure properly. |
| | 4 | Are the Scanner Drive Cables wound properly? | NO | Wind the cables properly. |
| | 5 | Are the Scanner rails damaged or dirty with foreign matter? | YES | Clean or change. |
| | 6 | Do the connections from CCD to HGB remain intact? | NO | Reconnect. |
| | 7 | Do the connections from HGB to UN2 remain intact? | YES | Change CCD, HGB, or UN2, in that order. |
| | | | NO | Reconnect. |